NEW REMEDIES.

A

QUARTERLY RETROSPECT

631 OF

THERAPEUTICS, PHARMACY,

AND ALLIED SUBJECTS

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NEW REMEDIES.

THERAPEUTICS.

JABORANDI.

"This new Brazilian sudorific, whose powerful effects we alluded to in our last issue, is receiving considerable attention in Paris, and seems to justify the early reports of its powerful properties. At the Société de Biologie, M. Rabuteau made a communication in which he narrated a series of experiments he had made with the view of discovering the alkaloid of the leaves, if any exists. His report was to the effect that jaborandi is a shrub whose botanic classification has not been defined. The leaves are oval, elongated, entire, from 8 to 12 centimetres in length, and from 2 to 4 broad, with a pennate venation. The quantity at disposal was too small to admit of exhaustive chemical tests, but M. Rabuteau concluded from his experiments that the leaves of jaborandi have an odor something resembling dry hay, due apparently to a fugitive principle *not analogous* to the essential oils of aromatic plants; that they have a bitter taste due to a principle soluble in water and alcohol, and which can be easily isolated by treating the watery extract of the leaves with alcohol. Lastly, the plant seems to contain no alkaloid. M. Rabuteau says these experiments caused him to be very skeptical as to the medicinal virtues of the plant, but in order to complete his investigations he made a cupful of infusion of the remainder of his sample, about 2 grammes 90 c.g., and very soon experienced all the sudorific and sialogogue effects which had been reported by M. Gubler.

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"The leaves and little twigs of the plant are broken up, and from four to six grammes infused in a cupful of warm water. The infusion may be taken warm or cold, and in about ten minutes after administration the patient breaks out into a violent perspiration, which continues for four or five hours, and which is so thorough as to necessitate several changes of linen. At the same time a most abundant flow of saliva is promoted, so abundant, says M. Gubler, that speech is rendered almost impossible. He asserts that he has known patients eject *more than a litre* in less than two hours. Occasionally the medicine has induced diarrhœa. Its action is more rapid and more thorough if taken warm, and if the patient is well covered up in bed, but its effects are none the less certain under quite contrary conditions.

"MM. Continho and Gubler justly assume that there is a great future for a drug of such capabilities as this *jaborandi* seems to possess. According to Professor Baillon, the plant belongs to a species of the rue family, the *Pilocarpus pinnatus : jaborandi*, it seems, is the Indian name for the plant. M. Continho slightly shakes our confidence in the miraculous power of his *protégé* when he tells us that it is to be found in the interior of some of the northern provinces of Brazil, an expression which seems to bear a relationship to Dr. Bliss's famous condurango formula, the herb which was only of value when procured 'from the almost inaccessible slopes of the Andes.' We shall hope for further enlightenment and evidence concerning this energetic diaphoretic."—*Chem. and Drug. Circ.*

"Drs. Sidney Ringer and Alfred Gould have made a series of four experiments on three lads, of ages from eight to twelve years, and report the results in *The Practitioner* of December, from which the following *résumé* is taken:

"In three out of four experiments jaborandi caused copious perspiration. In one lad the skin remained quite dry, affording an interesting evidence of the effect of idiosyncrasy; for on the same day, in the same ward, the same dose was administered to both lads, placed under the same conditions, yet, whilst one sweated profusely, the skin of the other remained dry.

"Jaborandi acts as a sialogogue, causing in some a very great flow of the salivary secretion; but its sialogogic is less uniform than its diaphoretic action.

"In one case only did it increase the bronchial secretion.

"Jaborandi considerably accelerates the heart's action, and renders the arterial pulse more visible; but whether this is due to increased force of the heart's action or to relaxation of the arterial system, our observations were not exact enough to determine. In each observation the temperature fell considerably. Now, this fall is not due to the

natural diurnal changes, for by other experiments we have ascertained that between 9 A.M. and 4 P.M. the temperature remains remarkably constant, and that when it does vary between these hours it generally rises. The action of jaborandi on the skin affords the most plausible explanation of the fall of temperature. We have seen that it causes flushing in the face, and probably, therefore, increases the flow of blood to the skin generally, and induces profuse general perspiration. These two circumstances must cause loss of heat by increased radiation and evaporation. Against this view, however, it must be stated that in the case of the boy whose skin remained dry, a decided fall of temperature occurred. It may be said that in this case there was increased insensible perspiration, which somewhat reduced the temperature; that, in fact, jaborandi did affect the skin, but to an extent insufficient to render the perspiration visible. Moreover, the fall of temperature was less and lasted a much shorter time than in the cases where the perspiration was copious. In the lad with the dry skin, as there was no flushing of the face, there was probably less determination of blood to the skin than in the other lads.

"In all the three lads the drug excited vomiting, but with scarcely any nausea. It produced drowsiness, which supervened soon after the flush disappeared from the face, when the skin became very pale, and a little prostration set in. The perspiration continued profuse long after the flush had left the face and ears.

"One unexpected result was obtained. In the lad who was subjected to two experiments the temperature was taken in both axilla and rectum; and the axillary temperature, during part of the observations, was higher than the rectal; and, though frequently tested, on no occasion did the rectal temperature exceed the axillary. The thermometers were compared and found to be exactly alike. This fact is certainly singular. On former occasions one of us made numerous observations regarding the rectal and axillary temperature, and found that in many people, if proper care was taken, the axillary temperature was as high as the rectal. This statement is opposed to Dr. Parkes' observations. It would appear, however, that in this respect there are individual differences. On no occasion was the temperature depressed below the limits of health.

"It has been asserted on high botanical authority that jaborandi is composed of the leaves and small stems of a rutaceous plant, the *Pilocarpus pinnatifolius*. Mr. Martindale obtained a fresh specimen of this plant from Kew Gardens, dried the leaves, and we administered thirty grains as an infusion to a lad about twelve years old; but the drug produced no effect. It may be that when grown in this country the plant fails to develop its active medicinal properties. Moreover,

the *Pilocarpus pinnatifolius*, when dried and powdered, does not possess an odor like that of jaborandi. Mr. Martindale, so well and justly known as a pharmaceutical authority, and who has published a paper on this subject in the *Pharmaceutical Journal*, considers that the plants are not identical."

THE ACTION OF MUSCARINE ON THE PANCREATIC AND OTHER SECRETIONS.

In a recent communication to the Société de Biologie, in Paris, M. Prevost gave a *résumé* of experiments made with the toxic principle of *Agaricus muscarius*. He had studied the action of muscarine, 1, on the heart, which it was found to stop in diastole by excitation of the intracardiac nerve-centres; 2, on the intestine and bladder, in which it provokes strong contractions; 3, on the pupil, which it contracts; and 4, on the secretions of saliva, tears, and intestinal mucus, which it strongly excites. His experiments confirmed the results arrived at by MM. Schmiedeberg and Koppe, adding some new details. Like these observers, he noticed the antagonistic action of atropine, which immediately stops the phenomena produced by muscarine.

In a further series of experiments, M. Prevost has studied the action of muscarine on the pancreatic, biliary, and urinary secretions (*Comptes Rendus*, Aug. 10).

1. *Action on the pancreatic and biliary secretions.*—The experiments were made on dogs, in which he laid bare the opening of the pancreatic and biliary ducts into the intestines, by a longitudinal incision of the duodenum. This was his usual method; but sometimes he made a pancreatic fistula.

Whether the animal was in digestion or fasting, the pancreatic secretion was notably increased after injection of some milligrammes of muscarine into a vein. The excessive secretion ceased after intravenous injection of one or two milligrammes of sulphate of atropine.

There was also a great increase of biliary secretion, from a feeble flow before the injection of muscarine, it became abundant. The excessive secretion ceased, and the normal state was restored, after atropine was injected. These experiments were frequently repeated on different animals, and with the same results.

2. *Action on the urinary secretion.*—M. Prevost observed the changes produced in flow of urine by the ureters, after intravenous injection of muscarine. The experiments were made on dogs, cats, and rabbits.

He found the following method the best. A longitudinal incision

is made above the pubes, in the median line of the abdominal wall, to an extent sufficient to produce hernia of the bladder. This organ is slit longitudinally throughout its height, and the edges of the wound sutured, on each side, to the lips of the abdominal wound. This operation may be quickly done, without hernia of the intestine. The experimenter is then in a position to observe the flow of urine by the ureter.

This process has the advantage of not modifying the urinary secretion, which is often the result of introducing a tube into the ureter.

One then sees the urine flow alternately at intervals of several seconds by each ureter, in the form of small ejaculations coinciding with termination of the vermicular contraction of the ureter, which can be easily seen propagated even to the bladder. The orifice of the ureter in the bladder appears to open actively at each passage of urine. The flow of urine by the two ureters is commonly alternate; but sometimes it becomes simultaneous. In the normal state there are, in the rabbit, seven to ten outflows by the ureters per minute.

M. Prevost made careful comparison of the phenomena before and after the injection of muscarine. In eight such experiments he found that the injection of muscarine into the veins diminished the urinary secretion, and almost stopped it completely when the dose was strong. In all these cases, on the other hand, the lacrymal, salivary, biliary, and mucous secretions were considerably increased. Thus the urinary secretion presents a striking contrast to the others. Curiously, the injection of a few milligrammes of atropine into the veins suffices to restore the urinary secretion to what it was before injection of muscarine.

In several experiments on the rabbit, the author found that the urine, which was clear at the beginning of the experiment, came out turbid from the ureter after injection of atropine, presenting a character which is frequent in the rabbit's normal state.

En résumé, muscarine produces an excessive secretion from the liver and the pancreas, and diminishes the urinary secretion even to suppressing it almost completely for some time. These phenomena disappear under the influence of atropine, which may thus, in the above respects also, be regarded as antagonistic to muscarine.

IPECACUANHA SPRAY IN WINTER COUGH AND BRONCHITIC ASTHMA.

Drs. Sydney Ringer and William Murrell have obtained excellent results from the use of ipecacuanha spray in winter cough, a typical case of which disease they describe as follows:

The patient has been troubled with winter cough perhaps for many years. During the summer he is pretty well; but during the cold months, from October to May, he suffers sometimes without intermission, occasionally getting a little better, and then catching cold; or perhaps he may lose his cough for a few weeks, but again takes cold on the slightest exposure. So short is the breathing that he can walk only a few yards, especially in the cold air, and finds it hard work to get up-stairs, and is often quite unfitted for active life. The breathing grows worse at night, so that he cannot sleep unless the head is propped up with several pillows. He is troubled, too, with paroxysmal dyspnœa, usually at night, which may last several hours, and compels him to sit up. Sometimes the breathing is difficult only on exertion; and in those cases it is made much worse by fogs, east winds, or damp. The expectoration varies greatly; in a few cases there is very little; usually, however, it is rather abundant, and consists of mucus or pus, often with little or no rhonchus in the chest. It is often difficult to expel the expectoration. The cough is generally very violent, frequent, hacking, and paroxysmal, and the fits may last ten or twenty minutes, and even excite vomiting. They are generally brought on by exertion; nay, in bad cases, so easily are they provoked, that the patient is afraid to move, or even to speak. The cough and expectoration are much worse in the morning on waking. Sometimes the cough is slight, and then the expectoration is generally scanty, the distressed breathing being the chief symptom. The patient generally wheezes badly, especially at night, and in a bad case the legs are swollen. The patient is emphysematous; there is often no rhonchus, or only sonorous and sibilant or a little bubbling rhonchus at both bases.

In such cases the ordinary spray-producer was used, with ipecacuanha wine, pure or variously diluted. On the first application it sometimes excites a paroxysm of coughing, which generally soon subsides, but if it continues, a weaker solution should be used. The patient soon becomes accustomed to it, and inhales the spray freely into the lungs. At first a patient inhales less adroitly than he learns to do afterwards, as he is apt to arch his tongue so that it touches the soft palate, and consequently less enters the chest than when the tongue is depressed. The spray may produce dryness or roughness of the throat, with a raw sore sensation beneath the sternum, and sometimes it causes hoarseness; whilst, on the contrary, some hoarse patients recover voice with the first inhalation. As they go on with the inhalation, they feel it getting lower and lower into the chest, till many say they can feel it as low as the ensiform cartilage.

The dispnœa is the first symptom relieved; but soon the cough and

expectoration are lessened, and then disappear. The inhalation should be used at first daily, and in bad cases twice or thrice in the day; afterwards, every other day suffices, and the interval may be gradually extended. If the ipecacuanha wine is diluted, then the spray must be used a longer time. In cold weather the wine should be warmed.

All but one of twenty-five patients were benefited. In one case the improvement was very gradual, but there was evident temporary improvement after each inhalation. In twenty-one cases the average number of inhalations required was 9.4, and the average number of days was twelve, before the patients were discharged, cured. The greatest number of inhalations in one case was eighteen, and the smallest three. The case longest under treatment required twenty-four days; the shortest, four.

In bronchial asthma very satisfactory results have been obtained by the same means.—*The Lancet* and *London Med. Record.*

Some Observations on the Local Action of Ipecacuanha.—Dr. Noel Guéneau de Mussy has used ipecacuanha locally with good effect in ophthalmia, and reports a case of a child eighteen months old treated in this manner in the wards of the Hôtel Dieu when solutions of nitrate of silver did not control the disease.

After four days of useless applications of this remedy, it occurred to his mind that decoction of ipecacuanha, which had proved so useful in sub-acute inflammation of the bowels, might be successful in this case.

So he prescribed four times daily an instillation to be made into both eyes with the following decoction:—Ipecac. root, ʒ ss.; water, ℥ v. Boil for ten minutes, and when cool, strain off.

The application of the remedy seemed at first rather painful; the child winked, frowned, and cried after each instillation. But it soon got accustomed to them, and the affected parts were speedily modified. After twelve days the granular appearance had disappeared; the conjunctiva recovered its natural color; the right cornea was quite healthy; only slight opacity was to be observed in the left; and after some days the baby left the Hôtel Dieu entirely cured.

He related this observation to his friend Dr. Galezowsky, who tried the remedy in the same conditions of *sub-acute* inflammation, and in several cases with success.—*The London Practitioner.*

Administration of Ipecacuanha by Injection.—Dr. Cheuppe (*La Trib. Méd.*, Aug. 16, from *Bull. de Thérap.*) claims very satisfactory results from this method of treatment in tuberculous diarrhœa

and cholera infantum. By the use of this remedy gastric complications are avoided, while the injections may be continued during long periods without disturbing digestion or enfeebling the patient. Under these circumstances ipecac seems to act by absorption.

A NEW ANTISEPTIC DRESSING.

The *Edinburgh Med. Jour.*, of September, contains a formula for a new antiseptic dressing employed by Lister in a case of rodent ulcer of the face:—Boracic acid in fine powder, one part; white wax, one part; paraffin, two parts; almond oil, two parts. The ingredients, after being mixed by melting the wax and paraffin, are stirred in a warm mortar till the mass thickens, and then set aside to cool, after which the fine substance is reduced in a cold mortar, in successive portions, to a uniform soft ointment. This is spread thin on a fine rag, and when the almond oil leaves it, as it soon does through the capillary attraction of the porous external dressing, a smooth, firm layer remains, which can be separated from the skin without leaving any greasy substance adhering, and does not at all confine the discharge which, while freely shed, is perpetually supplied with a sufficient quantity of boracic acid to insure absence of putrefaction, while not preventing cicatrization.

Another, and, it is thought by Dr. Henry (*London Med. Record*), a better application in cases of this nature, is an ointment composed like the one above described; except that instead of one part of boracic acid, it contains half the quantity of salicylic acid, the antiseptic virtues of which have been recently discussed by Prof. Kolbe, of Leipsic. Salicylic acid, while possessing very remarkable antiseptic powers, is even less irritating than boracic acid.

THE ANTISEPTIC PROPERTIES OF SALICYLIC ACID.

The physiological action of this substance has been little studied, though its physical and chemical properties are pretty well known. From the fact that it can be readily composed from carbolic acid and carbonic acid, and that on heating above the boiling point, it is decomposed into these two substances, Professor Kolbe, of Leipsic, was led to expect that, like carbolic acid, it would oppose processes of fermentation and putrefaction, and prove a good antiseptic. Along with Professor Thiersch, he made some experiments in this direction, which he has recently described to the Saxon Academy. To ascertain how salicylic acid acted on ferments, he first dissolved some

amygdalin in water, mixed with the solution a small quantity of the acid, and added an emulsion of sweet almonds. In a quarter of an hour, by which time a second mixture of almond emulsion and amygdalin, without salicylic acid, smelt strongly of bitter-almond oil, the mixture containing the acid had not the least trace of such a smell. If the proportion of salicylic acid be very small, the smell will appear after some hours; but, with even a small quantity, no smell will be perceptible after twenty-four hours.

Mustard-seed powder, which in lukewarm water soon gives a strong smell of mustard oil, gives no such smell if a very little salicylic acid be previously mixed with it.

If a solution of grape sugar be mixed with a little salicylic acid (a thousandth at the most), yeast has afterwards no action, and a sugar solution already in fermentation ceases to ferment when a small quantity of the acid is added.

[Details of such an experiment are given.]

Again, some Leipsic beer of excellent quality was divided among several wide glass beakers (1,000 grammes to each), and kept fourteen days at a temperature varying between 68° and 75° Fahr., the vessels being covered with loose paper. To one vessel was added (and mixed with the beer) 0.2 gramme of salicylic acid; to a second, 0.4 gramme; to a third, 0.8; to a fourth, 1.2 gramme; in another glass the beer remained unmixed. This last began at the end of the second day to deteriorate, and became coated with a layer of fungus. In the vessel with 0.2 gramme of salicylic acid the fungus-vegetation commenced on the third day; in the vessel with 0.4 gramme, on the fifth; in that with 0.8 gramme, on the tenth; while the 1,000 grammes of beer to which 1.2 grammes of acid had been added did not, even after twelve days, show any fungus-vegetation. Thus, a thousandth of salicylic acid, added to beer, suffices to preserve it from injury through fungus-growth.

Next, fresh and pure cow's-milk, with 0.4 per cent. of salicylic acid added, and left in an open vessel, at a temperature of 64.4° Fahr., was thirty-six hours later in curdling than equal quantity of the same milk beside it which was without salicylic acid. The addition of a little more salicylic acid delays the souring and coagulation still longer. The milk continues to taste well; the taste of the small amount of acid is not perceptible.

Some newly-passed urine was divided into two portions, and kept several days in separate vessels. A little salicylic acid having been added to one portion, this was found on the third day still clear and free from the smell of ammonia; while the other portion was already far gone in decomposition, and smelt strongly.

Fresh meat, rubbed with salicylic acid, will keep for weeks, in air. The author prepared large quantities of beef and mutton with the acid, put them in a large covered vessel, and a month afterwards he found them still quite fit for cooking. Most of the salicylic acid can be removed by washing, before the use of the meat. The remaining portion has a not unpleasant sweet taste, but it is hardly perceptible.

Professor Kolbe further states that he put hen's eggs, fresh laid in March and April, in an aqueous solution of salicylic acid, and let them lie about an hour in it. After drying, in air, they were laid in a box filled with chaff; in a second box was placed similarly a fresh egg, which had not been impregnated with acid. The eggs will be examined after six, nine, and twelve months have passed, and the results communicated.

Professor Thiersch made some experiments in the Leipsic Hospital as to the antiseptic action of salicylic acid and its use in surgery. He says that when strewn (either by itself or mixed with starch) on contused wounds not yet cleaned and on scurfy gangrenous surfaces, salicylic acid destroys, for a long time, the putrid odor, without any inflammatory action of importance. In solution of one part of salicylic acid, three parts of phosphate of soda, and fifty parts of water, it favors the coating over of granulation-surfaces. As to its action on fresh wounds, the following data are communicated. During the operation the wound is kept under a spray cloud of salicylic acid in water (one in 300). The dressing of the wound consists of wadding, impregnated with salicylic acid in the crystallized state. The wadding is moistened with salicylic acid in water (one in 300), as also the strip of muslin by which it is held. Afterwards, a continuous dripping of the acid solution on the bandage, about eight drops in the minute, is maintained. After an amputation of the femur on April 27, under such treatment, the patient experienced no pain, nor swellings, nor fever. The first renewal of the dressing was on the sixth day. The secretion in the wound during these six days was without smell. With equally good results, Dr. Thiersch performed some other amputations. He is of opinion that salicylic acid has all the advantages of carbolic acid, without its inconveniences.—*London Medical Record.*

The Curative Treatment of Insanity by Chlorhydrate of Morphia.—Dr. Voisin, of the Salpêtrière Hospital (*Bulletin Général de Thérapeutique*, March, 1874) arrives at the following conclusions:

If the malady be recent and not complicated by successions of delusions, the remedy keeps it from progressing, and stops the development of secondary or tertiary stages. Moreover, it calms the general or partial agitation in a time varying from two to three hours after a

sufficient quantity has been injected. This dose is very variable, and is only arrived at by experience. The manner in which the delirium disappears is interesting. The delusions, hallucinations, etc., seem to separate off from one another and no longer to form part of the same whole; they disappear one after another, and the patient replies to questions and recognizes that he has been ill, his memory returns, and he recounts a series of facts relating to his entry to the hospital, he writes to his family and allows himself to be treated medically without offering any resistance. It seems as if the symptoms of insanity disappear inversely in the order of their occurrence. Thus the patients who have begun by hallucinations followed up by delusions, in their recovery lose the latter before the former, and though the hallucinations may remain for some days they do not believe in them. The indications for the remedy are: melancholia, with or without hallucinations; ecstasy; suicidal ideas; religious delusions; maniacal excitement; the various forms of neuralgia which are so common among the insane, and especially in the women, which often determine the especial character of the delusions, giving, *e.g.*, the notion that they are being electrified. The peculiar form of *folie circulaire*, which is generally thought to be incurable, has been very successfully treated by it.

The contra-indications for its use are: inflammatory symptoms, epileptic insanity, and general paralysis. In that form resulting from atheroma of the arteries, it may cause mischief from congestion, leading thence to hemorrhage.

Of the twenty-five cases quoted which were cured, six were affected with general mania with hallucinations and incoherence. The strongest dose employed in these six cases was twenty-one centigrammes daily, and the smallest was thirty-one milligrammes daily, the average duration of the treatment being four months. The other successful cases were of melancholic form, with more or less suicidal and homicidal complications.

Of the five unsuccessful cases, four had delusions of wealth and power, and one had certain febrile complications, a condition which has been shown by later experience to be totally opposed to the proper use of the remedy.

Formenti on the Subcutaneous Injection of Calomel in Pneumonia.—Dr. Achille Formenti, in an article in the *Gazzetta Medica Italiana-Lombardia* of August 8, says that, having observed the good effects of the internal administration of calomel in cases of pneumonia, but having found also that the medicine was not always well borne by the patient, he determined to make trial of subcutaneous

injections. In the course of the year, however, he had but few cases of pneumonia; and the number on whom he had had an opportunity of trying the method was very small (six only), in consequence of the repugnance of the country people to anything novel. The patients were males, from twenty-five to fifty years of age; all were of lymphatic and cachectic habit (as is generally the case in the part of Lombardy where he practises), except one young man aged twenty-seven, who was robust and of sanguine temperament. At his first visit, when the patient was in a state of high fever, with burning heat, difficult respiration, dry cough and scanty expectoration, and pain in the chest on the side corresponding to the lung affected, after having established the diagnosis by percussion and auscultation, Dr. Formenti injected into the arm from ten to twenty centigrammes (1 to 3 grains) of calomel in fifteen drops of water, according to the age and the special condition of the patient. He also in some cases applied a few leeches over the seat of pain, as a revulsive; he did not bleed the patients, and gave no medicines internally, but only some refreshing diuretic drinks. In every case, on his visit next day there was marked improvement both in the general symptoms and in the physical organs, and it seemed to him that the course of the disease was shorter than when the usual treatment was followed. In one patient only, the robust young man already mentioned, there was a relapse at the end of seven days. The injection of one-and-a-half grains of calomel (three grains having been used for the first attack) produced permanent relief. Dr. Formenti did not meet with the production of abscesses or of salivation in any of the cases; and in all, when examined some time afterwards, there was no indication of hepatization; all breathed as freely as before their illness.

Dr. Formenti says that he will repeat the practice as opportunities are offered, and begs his professional brethren to make trial of the method which he describes; especially the district medical officers, who, as a rule, have the opportunity of seeing cases of pneumonia in an earlier stage, and under less complicated circumstances, than hospital physicians.

The Decomposition of Potassium.—Iodine in the Organism.—In a careful discussion upon the therapeutic action of bromide of potassium, C. Binz mentions the observation of Schönbein, to which, on the whole but little attention has been paid, to the effect that acidified potassium iodide is immediately decomposed by vegetable infusions containing protoplasm. Binz adapts to this experiment the relations of the general body by replacing the organic acids with a current of carbonic acid. The addition of quite neutral protoplasm

immediately sets free iodine; upon this fact he founds an hypothesis upon the still completely obscure action of the completely neutral potassium iodide on the human organism. Like the protoplasm of the cells of plants, the protoplasm of the cells of warm-blooded animals, which, with Schultze and Kühne, he considers to be identical with that of plants, is capable, he maintains, of effecting the decomposition of potassium iodide under the influence of carbonic acid. Certain specific tumors are most amenable to the action of iodide of potassium, and this is due to the fact that their cells can set iodine free, and a change in their histological characters is the necessary consequence.—*Buchner's Repert. of Pharm.*

Ferruginous Benzoate of Lithia in the Treatment of Gout.—Various works recently published, have spoken in high terms of the use of benzoate of lithia in cases of gout, and uric acid urine, and MM. Dalkiewicz and Mallez have recommended its use combined with ferruginous preparations. This is an instance of rational therapeutics, for benzoic acid in passing through the body undergoes conversion into hippuric acid at the expense of the protoic substances, which are the principle source of uric acid. Hippuric acid forms, with the ordinary bases of the body—as soda, potash, and ammonia—salts preserving a high degree of solubility, whilst the urates of these same salts are insoluble in the liquids of the economy, and form, almost exclusively, the gravel of the urine and the *tophi* of the joints. M. Gubler has hence given, in his "Commentaires du Codex Medicamentaires" the preference to the use of benzoic acid. But this acid cannot be employed *per se* for a long time, as shown by the experiments made in the Paris hospitals. M. Fréhyou has therefore thought it advisable to associate lithia with the benzoic acid, producing a very soluble salt, which prevents the fresh formation of uric acid, and forms, with that which exists, a urate of lithia, which is the most soluble of all the urates. Like all the alkaline preparations, however, this, if continued too long, has its inconveniences, and M. Fréhyou has had the excellent idea of adding iron to it. Experience has shown that he has not been mistaken, various writers having published statements showing the advantages they have found attending the use of the compound preparation.—*Le Progrès Méd.*

The Action of Mono-Bromide of Camphor.—M. Bourneville gives (*Le Progrès Médicale*) a series of experiments performed by himself on various animals, to whom he administered various doses of this substance, with a view to ascertain its physiological action. His conclusions are as follows. Bromide of camphor diminishes the number

of pulsations of the heart, and determines a contraction of the auricular vessels (guinea-pigs and cats). It diminishes the number of inspirations. It lowers the temperature uniformly in fatal cases. This lowering goes on to a greater and greater degree to the end. In cases which recover, this period of lowering is succeeded by one of elevation of temperature, which returns to the original point, but in a longer time than that during which the abatement has operated.

Bromide of camphor possesses incontestable hypnotic qualities. Toleration is not established with this medicine, and its use gives rise, at least with guinea-pigs, to a rapid, progressive emaciation. He has used it with advantage in delirium tremens, insomnia, infantile convulsions, paralysis agitans, chorea, hystero-epilepsy, etc. * * * *

At the present time our knowledge of the physiological action of the bromide of camphor, and of its value as a therapeutic agent, is imperfect. It is, nevertheless, evident that the administration of this drug has been followed by incontestably beneficial results, which have been corroborated by observation in a number of the hospital wards. Bromide of camphor is a well-defined substance, having a characteristic crystallization, smell, and flavor; and a powerful sedative both to the nervous system and circulation, acting as a hypnotic and regulating innervation.

It would be premature to specify the precise dose which ought to be administered. In the generality of ordinary cases it has been given to adults in doses of from twenty centigrammes to one gramme, a dose two or three times during the morning, a dose before dinner or with it, and, finally, another before going to bed. The dose naturally varies according to the illness and the special symptoms presented.—*London Medical Record.*

Action of Camphor on Plant Life.—An interesting article on this subject appears in the *Gardener's Chronicle*, in which allusion is made to the experiments made by Barton in 1798. This observer found that flowers could be preserved in camphor water for a much longer period than when immersed in ordinary water; and also that flowers, already withered, might be in some measure restored by having their stems placed in a solution of camphor. He came to the conclusion that camphor has a greater action on plants than any other known substance, and he compared its action to that of spirituous liquors, or of opium, on the human body, when taken in judicious quantities. These almost forgotten experiments of Barton have been repeated in new forms by M. Vogel, of Munich, who recently communicated the details and results of his experiments to the Munich Academy. The experiments were mainly made with an aqueous solu-

tion of camphor—ordinary *aquæ camphoræ*—and it was found that not only had this liquid the power of preserving and restoring cut flowers, but also exercised a remarkable influence on the germination of seeds, and the vigor of the resulting plants. Old seeds, which had been kept beyond the ordinary period of their germinative force, and which, when treated with water, showed but tardy signs of life, germinated rapidly when kept moist with the camphor water. Comparative trials with both liquids gave results greatly in favor of that containing camphor. From these experiments, which were very numerous, and apparently observed with great care, M. Vogel concludes that we have in camphor a stimulant for vegetation, capable both of strengthening the force and accelerating the time of vegetation. There are, however, some cases in which the favorable action of camphor is not observed. Clover seeds, sown in ordinary earth, germinated in twenty-four hours; but in earth commingled with a little powdered camphor, the germination was much more tardy. As oil of turpentine has on the animal organism a similar effect to camphor, M. Vogel was induced to try this liquid, and found that it also accelerated the germinative process, but it had an apparently injurious effect on the after development of the plants.—*Canadian Journal of Pharmacy*

Solution of Camphor in Erysipelas.—In the *Gazetta Medica da Bahia* it is said that a few drops of a solution of equal parts of gum camphor and ether, applied from time to time to an erysipelatous surface will, in the majority of cases, effect a cure.

Medical Properties of Cantharides.—Dr. Alessandro Cantieri contributes to *Lo Sperimentale*, of October, an article on cantharides, which is the result of numerous experiments upon animals. In applying his conclusions to practical medicine, after having remarked that blisters should be allowed to remain applied during as short a time as possible, that they should not be made use of in the case of nervous and delicate subjects, in dropsical subjects, particularly in those cases where the anasarca is dependent upon renal disease, in infectious diseases, cholera, or chronic cardiac affections, he adds that the application of blisters of cantharides can only be of use in medicine for their rubefacient action in simple venus hyperæmias or stases, as in those caused by insolation or abuse of alcohol, in simple cardiac affections, and in other diseases of the same kind.

If Dr. Cantieri gives us these indications, it is because he has recognized that cantharides, applied as a blister, debilitates the action of the heart and of the vessels, instead of exciting them; that other stimulants, administered internally, are much preferable; that it

causes hyperæmia of the kidneys, active and passive; and that in diseases of these organs it should be entirely banished from use, as well as in cardiac affections,—above all, where albumen is found in the urine. The blister should not be employed, he remarks, in the substitutive method, since, besides its local action, it possesses an absorptive, which may have grave results. It may be employed as a rubefacient in the cases above mentioned, but sinapisms and hot foot-baths present fewer inconveniences.

In acute diseases, in typhoid and other infectious fevers, where adynamia and ataxia prevail, its use should be guarded, since by absorption of the principles of the cantharides, which alter the blood-globules and diminish the contractile force of the heart, infection is piled upon infection. In addition, cantharides alters the cerebro-spinal axis, and therefore brings about disorders in the vital functions depending upon it. It augments inflammations and produces blood-stasis, for it arrests the contractility of the vascular walls and paralyzes the vaso-motor nerves, or rather is active in changing the products of inflammation by altering the crasis of the blood. Finally, it favors cardiac collapse, in place of preventing it, as is generally believed.—*Bull. Gén. de Thérap.*, November 30, 1874.

The Anti-neuralgic Properties of the Essence of Mint.—In a paper read before the Société de Thérap., M. Delioux de Savignac points out that the essence of mint exerts a special influence on the sensory nerves, which diminishes the abnormal vivacity of their reactions when these become exalted into painful affections. It is comparable in this respect to chloroform, ether, and camphor. Though its high price will prevent its being extensively used in the pure state as an anti-neuralgic and anti-rheumatic, it may be employed in alcoholic solution as an application in the form of liniment, and camphor, chloroform, and laudanum may be added to it with advantage in various cases. Dr. Savignac has found it extremely useful in relieving the pain of pruritus; in alleviating, when employed in the form of injections, the miseries of vulvo-vaginal hyperæsthesias, vaginismus, and neuralgias of the head and face, which are best treated by making a small ball of wool of the size of a nut which has been made to imbibe a few drops of the essence, and rubbing the painful part with it gently. It is then to be covered with a larger piece of wool, and the whole kept in position for a few minutes with the palm of the hand. The success of these external applications of the essence of mint in neuralgias of the head and face, and even in cases of congestive cephalalgia, has been both prompt and permanent. He adds, however, that the cause of the pain must be local for the cure to be

permanent, since, if it be dependent on hysteria, or be connected with intermittent fever, or with gastric derangement, the primary cause must first be removed. The remedy seems to have been long known in China. For intermuscular and parenchymatous neuralgias, which are especially obstinate, he has tried the following as a hypodermic injection:—

Hydrochlorate of morphia, 1½ grains;
Hydrolate of mint, 140 minims;
Alcoholate of mint, 15 minims. Mix.

—*Gaz. Méd. de Paris* and *The Practitioner.*

Acetic Acid in Mucous Polypus.—Dr. Méplain, of Moulins, gives the history of a man, thirty years of age, who had been afflicted for a month with a mucous polypus of the velum palati. The tumor was growing rapidly, and impeded deglutition and speech, and gave rise to considerable hemorrhage. Applications of chromic and carbolic acids, removals with scissors, etc., afforded no relief, the tumor being constantly reproduced. A drop of acetic acid was injected into the polypus, and it immediately began to shrink; a second injection completed the cure, and five months later there were no symptoms of a return of the disease. The pain is intense for a few moments, but soon subsides, and one or two weeks usually suffice for cure.—*Bull. de Thérapie* and *Gaz. Med. Ital. Prov. Venete*, No. 9, 1874.

Eucalyptus and Tobacco.—A captain of the French army, according to *Science Pour Tous*, not being able to abandon the use of tobacco for smoking, although its use caused him serious inconvenience, has for several years mixed a few dried leaves of *eucalyptus globulus* with the portion or the weed which he is in the habit of using daily. Since he has employed this mixture, he asserts that he has experienced neither vertigo, headache, nor pain in the stomach. He recommends this means for preventing the disagreeable effects of the pipe, without compelling the individual to renounce his old habit.—*Medical and Surgical Reporter.*

The Diuretic Action of Digitalis.—Drs. Brunton and Power, writing to the *Centralblatt für die Med. Wissensch.*, remark that Max. Hermann and Ludwig have shown that the rapidity with which the urine is secreted depends upon the difference between the pressure of the blood in the renal glomerules and that of the urine in the uriniferous tubules. At present it is supposed that the diuretic action of digitalis is not due to any specific property which it possesses, but to the power which it has of increasing the blood-pressure in the arterial system. The results of experiments which these observers made about a year ago show that this is not the case. After the injection of a con-

siderable dose of digitalin into the veins of a dog into whose bladder a catheter had been introduced, the secretion was either suppressed or at least considerably diminished, while the blood-pressure was simultaneously increased Some time later, the pressure fell, and in some of the experiments the secretion of urine reappeared with the sinking of the blood-pressure, while in others no reappearance of the secretion took place until the pressure had become less than normal. In some cases the urine flowed more rapidly than in others, although the pressure was much below the normal standard. If the diuretic effect of digitalis is due entirely to the power which it has of increasing the blood-pressure, the flow of urine ought to be much increased immediately after the injection, and should also be diminished as the pressure falls. Instead of this, it was found that the secretion was least when the pressure was highest and became more plenteous when the blood-pressure had become less than normal. In explanation of these conditions it seems reasonable to suppose that digitalis has an irritative action upon the vaso-motor nervous system, and that its action in that respect is especially well marked upon the vaso-motor nerves of the kidney. It must at the same time be supposed that it gives rise to a moderate contraction of the vessels of the general circulation, and an increase of the blood-pressure in them, while in the kidneys it causes a higher degree of contraction of the arteries, in consequence of which there is an immediate cessation of the flow of the urine. As the irritant action on the vaso-motor nerve becomes less, and finally passes away, the renal vessels become flaccid more quickly and more completely than the others, so that the blood-pressure in the renal glomerules is still above its normal amount, although the tension of the vessels of the general circulation is below its average quantity. This supposition is further supported by the fact that the urine which is collected after the reappearance of the secretion contains albumen. This substance was found by Hermann after the circulation in the renal arteries was obstructed. The possibility that the variations of the secretion are partially dependent upon the direct influence of the medicine on the secreting elements of the kidney must not be overlooked, and these same experimenters are now investigating this point, and will in due time publish the results of their work.

Strangury Caused by Tr. Ferri Chlor.—In the *Practitioner* of November, Dr. Edwin Atkinson reports a case of a gouty patient who on two occasions suffered severely from strangury following applications of tincture of the chloride of iron to the skin.

The Action of Purgative Medicines (*The Practitioner*, May–June, 1874).—It is generally believed that most purgatives increase

the number of the stools and render them more fluid in a double manner: first, by stimulating the intestine to increased peristaltic action, and secondly, by inducing a discharge of fluid from its mucous surface. Some purgatives, like aloes, are supposed to act almost entirely in the former way; others, like bitartrate of potassium, in the latter; while others again, like croton oil, are supposed at the same time to increase the flow of fluid and the peristalsis. Several eminent German authors are inclined to deny that there is any increased flow from the intestinal walls, but regard the quickened peristalsis as almost the only cause of purgation, believing that the liquid stools are produced by the contents of the intestine being hurried along and expelled per anum before there has been time for the absorption of their fluid constituents. Dr. T. Lauder Brunton, has lately confirmed the results of Moreau and Vulpian, by repeating their experiments, showing the falsity of this latter theory. The abdomen of an animal being opened, four ligatures were tied tightly around the small intestine, a few inches apart from each other, so as to isolate three portions of intestine. A purgative medicine was then injected into the middle part, the intestine was returned into the abdomen, and the wound sewed up. A few hours afterwards the animal was killed, and on examination the middle portion of intestine, into which the purgative had been injected, was found full of fluid, while the portion on each side was comparatively or entirely empty. Dr. Brunton has shown in this way that croton oil, elaterium, gamboge, and sulphate of magnesium, all cause a copious secretion from the intestine.

Purgatives prove useful in many ways. They hurry the food out of the alimentary canal, and thus lessen the injurious effects of over-eating. By expelling irritating substances from the intestine, they arrest diarrhœa and remove headache and other pains caused either by the abdominal irritation or by the absorption of poisonous matters produced by imperfect digestion and decomposition of food. They relieve biliousness by removing bile, and are most efficient aids in the treatment of chronic poisoning by lead, mercury, or other metals. It is probable that pepsin and pancreatic ferment are absorbed from the intestine and circulate in the blood, where the latter assists in the production of animal heat. They are then secreted anew by the stomach and pancreas, and do their work again. Purgatives lessen their quantity as well as that of the bile; they may thus be useful in fevers, but they injure old and feeble persons, both by diminishing their calorific power and impairing their digestion. They relieve inflammation by lowering the blood-pressure and thus lessening the congestion; and they prove beneficial in dropsies, both by abstracting water from the blood and diminishing congestion in the kidneys.

At the *Société de Biologie*, 20th June, M. Carville related some experiments performed by Professor Vulpian and himself, which went to prove that sulphate of magnesia, when subcutaneously injected, can produce catharsis. A discussion arose as to the mechanism of purgation, some of the members objecting to the view that purgatives act by determining an intestinal catarrh. Rabuteau believes that the theory of osmose explains the phenomena of purgation.—*The Doctor*, October 1, 1874.

Hydrastin in Gonorrhœa.—"As far as internal treatment is concerned, I merely give in the first stage a saline aperient to be continued three times daily for four or five days, together with the following injection: hydrastin, one drachm; solution of morphia (Magendie's), two drachms; acacia mucilage to four ounces: to be used three times daily. This I have employed when inflammation ran very high, without even the slightest ill effects, and have used it in every stage of gonorrhœa with the most beneficial results when every other treatment, both internally and locally, had failed, including red sandal-wood oil. But there is one remark I wish to make regarding the use of injections which medical men generally forget, and that is, to tell their patients to micturate previous to its use. Unless this is done, injections in gonorrhœa are useless. Hydrastin is used very much in different parts of the United States, and very successfully. My last patient was a farmer, who had had a gleety discharge for seven months. His medical man had quite wearied him out with injections, etc., all to no purpose. I at once tried the hydrastin, and in two weeks he was quite well."—J. N. Bredin, F.R.C.S.I., in *London Lancet*.

Treatment of the Acute State of Blenorrhagia with Cannabis Indica and Benzoic Acid.—Dr. Lamarre says (*Jour. des Connaissance Méd.*): "During seven years I have in more than sixty cases employed cannabis indica and benzoic acid when patients have applied to me too late for the abortive method to be resorted to, when the discharge has been purulent and micturition painful, and have never failed of success when I have employed them together. The hashish alone diminishes the intensity of the disease, but is not always sufficient. Benzoic acid has made some cures and several half-cures, but the two in combination have never failed. I advise the tincture of cannabis indica to be used in doses of two grammes, and the benzoic acid in doses of one gramme in a mucilaginous mixture, in twenty-four hours, the usual hygienic measures being followed. For two years I have also used with great success injections of simple water, made as often as possible (ten to fifteen times in twenty-four

hours), and have always been able to commence with the balsamic and opium treatment within four days at the farthest."

McIntosh on Dysmenorrhœa and its Treatment with Sulphate of Quinia and Extract of Stramonium Seeds.—The results of an experience with each of these drugs, used separately, led Dr. McIntosh (*American Quarterly Journal of Medical Science*) to unite them in the following proportions, varied according to the requirements of each individual case: "Give a pill consisting of ¼ to ⅓ gr. ext. daturæ stramon. sem.; ½ to 3 grs. sulph. quiniæ; ¼ to ½ gr. opii; 1 to 2 grs. camphor, three times a day for five days; beginning three days before the catamenial discharge, and continuing for two days after its inception. The same treatment is to be commenced just previously to the next monthly period, and usually from four to eight repetitions, where there is no mechanical obstruction, will secure a regular, painless, monthly flow." Latterly, Dr. McIntosh has added powdered ipecacuanha to the above pill, and, as he states, "with benefit." "With the foregoing treatment should always be combined such emmenagogue and ferruginous medicines as an anæmic or other condition may require, while special directions should be given to procure a daily action of the bowels. A careful avoidance must be observed of exposure to cold or wet, and great care in keeping the feet warm, and a good circulation of the lower extremities generally."

Stramonium in Hydrophobia.—Chinese medical specialists are reported to cure hydrophobia by means of poisonous doses of stramonium. If given in sufficient quantity, the efficacy of this drug in cutting short the disease is undoubted.

Iodoform as a Topical Application, Particularly in Venereal Diseases.—MM. Dubrisay and Pelletan, in independent brochures upon this subject, arrive at the following conclusions in common (*Jour. de Dermatol. et Syph.*):

1. Iodoform is a local anæsthetic.
2. Applied in the form of a powder it cicatrizes wounds rapidly.
3. It is especially indicated in small superficial atonic wounds, or those having a tendency to phagedæna, soft chancres, suppurating buboes, syphilitic onychia, syphilides generally, varicose, scrofulous, and cancerous ulcers.
4. It operates more surely and promptly than other therapeutic agents ordinarily employed in the cicatrization of ulcerating syphilides, under whatever form they may present themselves.
5. In the treatment of soft chancre, it is in some sort a specific in the promptitude with which it causes cicatrization without pain.

6. In the treatment of simple or virulent buboes (non-specific), it may be employed in the form of ointment as a resolvent during the first period with more success than a blister or tincture of iodine. During the period which succeeds the opening of the sore, it hastens rapid cicatrization of the wound.

7. In the case of soft chancre, of ulcerating syphilides, and of bubo, when the suppuration is abundant, it is preferable to commence the treatment by solution of iodoform in glycerine and alcohol. The iodoform in powder may be used later.

8. The employment of iodoform in syphilitic affections does not do away with the necessity of using internal treatment.

9. The rapid cicatrization brought about by iodoform is due—1, to the simplicity of the dressing, which does not irritate the diseased parts; 2, to absorption of secretions by the powder; 3, to its antiseptic properties, particularly when it is dissolved in glycerine and alcohol; 4, to the presence of iodine, which acts favorably on syphilitic ulcerations of all kinds.

Solution of Iodoform.

℞. Iodoform ..... ʒ i to ʒ iss;
Glycerine. ..... f. ʒ xij;
Alcohol ..... f. ʒ iv.
M.—Ft. sol.

Iodoform Ointment.

℞. Iodoform ..... grs. xxx;
Alcohol ..... q. s.;
Axungiae ..... ʒ i.
M.—Ft. unguent.

Bromide of Ammonium in Menorrhagia.—Dr. J. K. Black, of Newark, Ohio, has had excellent results from the use of this remedy in excessive menstrual flow. He says: "In the administration of the remedy, an essential rule is, that its use shall precede the expected period by at least ten days. Its administration only during the crisis will do very little, if any, good. The sedative influence of the remedy must precede and accompany the stage of ovarian and uterine vascular engorgement, which itself preceded the flow by several days.

"Some writers have spoken quite favorably of the remedy in dysmenorrhea and menorrhagia, administered in the usual manner, that is, during the crisis only. Having been frequently called to see cases of these disorders during their progress, I have failed to observe any very satisfactory evidence of its controlling power while administered only during the emergency. But when administered according to the

above directions, it has not only, almost without exception, lessened a regular monthly excess, but it has, in appropriate cases, in quite a number of instances which I can recall to memory, changed a two-week into a four-week crisis."

Bromide of Potassium as a Caustic.—M. Peyraud (*Bordeaux Médical Bull. de Thérap.*, Juillet 15), having previously established that the bromide of potassium possesses the property of arresting local circulation, and that a concentrated solution of the salt, subcutaneously injected, produces eschars, reports a case of an extensive bleeding and vegetating cancroid of the face, which he treated by daily applications of the salt, finely powdered, over the mass. In twenty-eight days the projection formed by the disease had disappeared, leaving, however, its base of implantation in the deep tissue. It is stated that these applications have the great advantage of being painless. Peyraud thinks that the bromide acts by arresting the circulation in the capillary vessels rather than by destroying the tissues mechanically, like caustics. It is suggested that this salt may be useful in checking fleshy growths, etc. In morbid growths, in which the skin is not ulcerated, a concentrated solution may be injected into their substance, or the integument may be previously destroyed.

BROMIDE OF POTASSIUM IN HYPERTROPHY OF THE SPLEEN.

Enlargements of the spleen are very frequent in Algeria, in places where intermittent fevers prevail, and among the inhabitants of palustral regions in the more or less marshy plains of Chéliff, of the Matidja, Issers, etc. This organ often assumes considerable proportions, compresses the intestines, embarrasses the circulation, and determines serious accidents, sometimes death. Very often, too, this engorgement resists every form of medication known up to the present day, the most energetic, the most rational, even removal from the mephitic centre, change of country, etc.

The following is a treatment which has always given me the best results. Up to the present time, of thirty-eight observations I have not had a case of failure, so that the treatment is as efficient as simple.

The volume of the spleen does not augment only after the access of fever. There are hypertrophies of this organ in malarial localities which have never been preceded by the least febrile movement. In these cases the sulphate of quinia produces no effect whatever: it may even be injurious. On the other hand, it produces very excellent

results when the augmentation of the spleen is not only recent but is also the consequence of intermittent fever. We may see these hypertrophies disappear without even being obliged to administer large doses of quinia; and if they do not thus disappear entirely, they end by yielding spontaneously to the efforts of nature and a pure air. But we are not always happy in being able definitely to cut down an intermittent fever at its start. The patient does not always take the necessary precautions to arrive at a certain and solid cure. Recurrences supervene, each one of which increases the splenic engorgement. In these cases we can rely no longer on febrifuges. We must have recourse to a medication *dégorgeante, résolutive*, which up to the present time has not given results as evident and positive as the means of which I am about to speak.

It occurs also that we may completely cut down an intermittent fever, and the engorgement of the spleen may not present the least diminution. These cases, rebellious to the sulphate of quinia, yield perfectly to this new medication.

Splenic intumescence may have different forms; sometimes it is enormous, hard, painful to pressure, even to touch, gives a sense of resistance, presents an extraordinary diameter, reaches beyond the linea alba, crowds back and seriously compresses the intestines, pushes up the heart and left lung, simulating affections of these organs, with great interference with their functions, takes up the whole of the left hypochondrium and sometimes a great part of the pelvis, as I have remarked in an Italian working at the fabrication of vegetable hair in an insalubrious lodging on the banks of the Harrach.

The great obstinacy I have often experienced in causing these hypertrophies to disappear has always interested me exceedingly; their persistence in spite of the most rational treatment and that best observed has often discouraged patients.

A most felicitous circumstance furnished me the indications which constitute the object of this work.

M. A——, colonist and landed proprietor in the Mitidja, a very intelligent man and a close observer, had inhabited the plain for fifteen to twenty years, during which time he had often been attacked with intermittent fever which had exhausted his constitution. During the time I dwelt in this country, he had several relapses with cerebral accidents, very painful and very disturbing, with delirium, nervous agitations, etc. I had frequent occasion to examine him thoroughly during and between the attacks. The spleen was enormous, hard, greatly hypertrophied. I advised different kinds of treatment, which had often been tried before, but without any result whatever.

In the course of the last year he was seized with an accession of very

violent nervous attacks. I then prescribed the bromide of potassium, three grammes (forty-five grains) daily, in one potion. I was very much surprised on the tenth day of this treatment to observe that the spleen was diminished one-half. The bromide of potassium was continued twenty-five days up to complete resolution of the spleen.

I hastened to repeat this experiment to verify the fact—I had a great number of cases under observation—and I always obtained the same happy results.

En résumé, we may secure complete resolution of intumescence of the spleen in different conditions, by the bromide of potassium in the dose of one gramme daily for fifteen or twenty days in an infusion of linden-blossoms, orange-leaves, etc. It is rarely necessary to prolong treatment beyond thirty days.

Here is a last observation made quite recently:

An Arab of Turkish origin, in a very comfortable pecuniary condition, had an enormous belly, resistant, very painful in the left hypochondrium, the most pronounced anæmia, and all these conditions for six years. After a month of treatment by the bromide of potassium, he resumed his occupation. Six months have now passed, and the left hypochondrium has presented its normal aspect and state. There was no recurrence whatever. Not one of the numerous varieties of treatment previously employed had given this result, although they had secured him temporary relief.

I close by remarking that by this medication in the same doses, hypertrophies of the liver yield just as readily, or at least are very much improved. I propose to speak of this subject in another paper.—*M. Dr. Ch. Bernard, médecin de colonisation at Bordj-Menaïel*, in *Bulletin Gén. de Thérap.—The Clinic*, September 15, 1874.

Bromide of Potassium in Gonorrhœa.—Dr. John W. Bligh, in the *Practitioner*, recommends that, as soon as a patient complains of gonorrhœa, bromide of potassium should be immediately commenced, and continued throughout the duration of the disease. As it is said to increase the acidity of the urine, an alkaline bicarbonate should be combined with it. The following formula has been found useful:

℞. Potassæ bicarbonatis	gr. lx.;
Potassii bromidi	gr. xc-cxx.;
Tincturæ hyoscyami	fl ʒ ss.;
Aquæ camphoræ	fl ℥ vss.

Mix.

One-sixth part of this mixture is to be taken three times a day, and once during the night, should the patient happen to be awake. Care

should be taken not to administer a dose during digestion, as it may, by neutralizing the gastric juice, interfere with the conversion of food into chyme.

If the disease be in the first stage, an injection of the salt is recommended to be used as frequently as opportunities allow. The following is the usual form and strength:

℞. Potassii bromidi..... gr. cxx.;
Glycerini..... fl ℥ ss.;
Aquæ destillatæ..... fl ℥ vss.
Mix. One syringeful is to be used every four hours.

When the discharge has assumed the form of gleet, a similar injection, associated or not, as may be thought advisable, with some astringent, will be useful. Dr. Bligh also administers during this latter stage from fifteen to twenty grain doses, three times a day, combined with fifteen minims of the tincture of the perchloride of iron, and dissolved in some suitable menstruum.

There are certain accessories which should not be neglected. The bowels should be carefully regulated, the proper diet prescribed, and a total abstinence from beer and other stimulants insisted on. Rest should be enjoyed, and over-exertion strictly avoided. The testicles should be supported by a suspensory bandage, and the genitals bathed from time to time, especially before retiring to rest. The flow of urine may be increased by the free use of diluents.

Enemata of Bromide of Potassium in Obstinate Vomiting.—Dr. Girabetti (*Medical News and Library*, August 8, 1874) has obtained the very best results from the administration of enemata of bromide of potassium, in doses of from one-half to two drachms, in cases of obstinate vomiting attending the pregnant state. The same drug, also administered in enemata, has been very successful in the hands of Dr. Laborde, of Paris, in obstinate vomiting connected with disease of the stomach, liver, and intestines.—*Lancet.*

Bromide of Potassium in the Treatment of Malignant Ulcerating Tumors.—M. Payraud recommends the use of solutions of bromide of potassium, to be applied to malignant ulcers in the form of spray.

He maintains that it acts as a sedative upon the nerves, thus relieving pain, while at the same time it exerts a contracting effect upon the capillaries and a slight but beneficial caustic action on the general surface of the wound.

Condurango.—Dr. Alfred Obalinski, of Cracow, reports (*Centralblatt für Chirurgie*) successful results in two cases of epithelial cancer treated by condurango, both internally and locally. The first patient, a woman aged 80, had a small epithelial cancer (ulcus rodens) on the under eyelid; the second, also a woman, aged 50, had an ulceration of a similar character of the size of a bean, which had been noticeable for three years and had been already treated by caustics. Six weeks later both patients were seen again, and in both cases the ulcerations were completely cicatrized.

Vomiting controlled by Tobacco-Smoke.—A young girl not pregnant, suffering from severe and uncontrollable vomiting, under Dr. Beaumetz's care at the Hôtel Dieu, was, after the ineffectual trial of various remedies, ordered to smoke a cigarette after each meal. This, so long as its use was persisted in, seemed to check the vomiting entirely.

Tellurium.—The salts of tellurium have the property of imparting to the perspiration a most offensive odor. It is said that Prof. Bunsen, who experimented on his own person, was compelled to absent himself from society for four weeks on this account; it is supposed that tellurium will never be used extensively as a medicine.

Gelseminum in Facial Neuralgia.—Drs. Sawyer and Mackey highly recommend the employment of gelseminum for the purpose of relieving pain, especially in branches of the fifth nerve. The preparation used is a tincture made from two ounces of the coarsely-powdered root macerated in a pint of rectified spirit; dose, five to twenty drops. The evidences of the physiological action of the drug are loss of sight, double vision, headache, and paralysis.—*British Medical Journal.*

The Use of Carbolic Acid in Cheesy Pneumonia.—Professor Tommasi states (*Il Morgagni*, January, 1874, quoted in *Gazzetta delle Cliniche*, May 19) that he has found carbolic acid very useful in cases of cheesy pneumonia which have gone on to the formation of pulmonary abscess. The medicine is administered in the form of solution (one part in forty of water, sweetened). In two years he has met with six cases, of which he relates two.

The first case was that of a boy, aged six, who had hectic, sweats, extreme emaciation, and moderate expectoration of sanguineous fœtid pus. Cinchona, lactate of iron, cod-liver oil, and raw meat produced but little improvement. He now had half a gramme of the carbolic acid solution daily, the dose being increased to a gramme. At the

end of a fortnight the fever ceased, the expectoration diminished and became inodorous, and in four months he was quite restored to health.

In the second case, there was abundant expectoration of inodorous pus. The usual restorative means failed; but, after the solution of carbolic acid had been given in daily doses of a gramme to a gramme and a half, the expectoration diminished, and the patient became free from hectic and regained his appetite, and his nutrition was improved. In two months the expectoration had ceased, and a respiratory murmur though weak, could be heard in the portion of lung which had been hepatized.—*The London Med. Times.*

Peculiar Effect of Nitrite of Amyl (*The Practitioner*, September, 1874).—Dr. J. Crichton Browne, while administering nitrite of amyl to a girl who was in the *status epilepticus*, noticed that yawning was produced, and that whenever the inhalation was interrupted the yawning ceased; whenever it was resumed the yawning recommenced. One or two other similar observations, made by himself and his colleagues, induced him to make a series of experiments by administering nitrite of amyl to persons during sleep. Out of fifty-seven cases in which he had avoided waking the patient, in forty-two there were distinct movements of the mouth, consentaneous with flushing of the face. The most common movements were a depression and elevation of the lower jaw, as if in the act of chewing, and a smacking of the lips. Ether was found, as a rule, to merely deepen sleep without producing any movements whatever; ammonia always awoke the patient. It appears, therefore, that nitrite of amyl, when inhaled during a state of unconsciousness, has a specific action upon the motor centres of the mouth, and calls into action, by preference, the muscles of the lips and lower jaw. Whether it performs this action reflexly or through the agency of the vaso-motor apparatus is as yet undecided.

The Influence of Mercury on the Red and White Blood-Corpuscles.—Dr. Wilbouchervitch, of Moscow, publishes the results of a series of experiments on this subject in the *Archives de Physiologie*, July–September, 1874.

After giving the details of a large number of carefully-performed experiments, Dr. W. states his conclusions as follows:

1. Mercurial preparations in small doses produce during a certain period, in individuals affected with syphilis, an increase in the red globules of the blood, and at the same time a slight diminution in the number of white globules (hypoglobulie). The diminution in quantity of the blood-globules due to the syphilitic disease is arrested, and the blood returns to its normal condition.

2. Too long-continued mercurial treatment gives rise to the same conditions as when the drug is administered in large doses; that is, it brings about rapidly, in animals, hypoglobulie, diarrhœa, etc.

3. Consequently, it is very important to know exactly at what moment the mercurial treatment should be suspended, and this moment can only be ascertained by enumeration of the blood-globules.

4. It is necessary, then, to divide the mercurial treatment into several periods. At first, that condition of hypoglobulie which coincides with the early manifestations of syphilis should be combated by mercurial preparations in small doses until a diminution in the number of red globules is noticed. At this point treatment is suspended until hypoglobulie again occurs. Then mercury is once more administered, and this is again suspended when diminution of the red globules is once more reproduced.

Dr. W. concludes by stating that he has only observed thus far the influence of mercury in the primary lesions of syphilis. The study of the same influence in secondary and tertiary lesions he leaves until some future occasion.—*The Med. Times.*

Atrophy of the Testicles following the Use of Large Doses of Iodide of Potassium.—The *Gaz. Méd. de Paris*, May 23, p. 269, quotes from the *Pabellon Medico* the following case coming under the notice of Dr. Juan Lomon:

A man of 27 had suffered from various manifestations of syphilis, among others, orchitis and pharyngeal ulcerations. Under the influence of judicious medication by means of iodide of potassium and mercury, all signs of disease disappeared. About a year later, however, some ulceration appeared on the pharynx, and the patient, taking the case into his own hands, dosed himself with large quantities of the iodide. The ulcers were finally healed, but a twelvemonth later he requested Dr. L. to examine his testicles. The right, on inspection, was found to have disappeared; the left was about the size of an almond. Coition was accompanied by pain, erection taking place slowly and lasting a long time. The duration of the venereal act was much prolonged, and no emission of semen took place.

The State of the Pupil in Chloroform Anæsthesia as an Indication of Danger.—M. Budin, interne of the hospitals in examining with care all the details of chloroformization with the end of discovering some sign which may guide the surgeon in its administration, has observed that there exists a certain relation between the state of the pupils and the more or less profound anæsthesia of the subject. He has very often had occasion to observe this phenomenon in the

man, and further he has undertaken with Dr. Coyne a certain number of experiments upon animals.

The following are the conclusions he believes himself justified in drawing from these experiments.

1. There exists in the surgical anæsthesia, produced by chloroform, a constant relation between the state of the pupil and the period of anæsthesia.

2. During the period of excitation, the pupil is dilated.

3. This period passed, the pupil contracts; its atresia, very marked for several minutes, accompanies, in general, complete anæsthesia.

4. Dilation of the pupil supervening during an operation indicates in general that anæsthesia is less profound and that return to sensation is near.

5. The state of the pupil may then serve as a guide in the administration of chloroform.

6. During operations of long duration, if the patient is to be kept completely insensible and immobile, the pupils must be kept constantly contracted.

7. Finally, efforts at vomiting may produce dilation of the pupils, dissipate the insensibility and awaken the patient; they annihilate in part the effects of anæsthesia.—*Progres Médicale—Gaz. des Hôpitaux*, Oct. 1, 1874.

Action of Phosphorus on the System.—Within a few years past, the attention of the profession has been increasingly directed to the value and mode of application of phosphorus as a remedial agent. A paper was read by Dr. J. Ashburton Thomson, at the recent meeting of the British Medical Association (*British Medical Journal*) which contains many practical hints on the subject. Dr. T. refers to three different results from its use, according to the form and dose, namely, tonic, stimulant, and toxic. The tonic action requires small doses, from the one-hundredth to the one-twenty-fifth of a grain—never more than the latter quantity. In these doses it tends to renovate exhausted nerve function and reconstruct altered nerve matter. As a tonic it is invaluable in many cases in which its use in large doses as a stimulant would prove disastrous. As a stimulant not less than the twelfth of a grain should be employed, and the dose should be increased if necessary, to one-eighth. The best adjuvant in this case is ether. The objects for which it is proper to employ it as a stimulant were described as being: preparation for active bodily or mental exertion, relief from the effects of such exertion; as a remedy for the typhoid state, especially in the specific fevers; to call forth exanthematous eruptions. Its aphrodisiac action is not evinced in these doses,

but only when large quantities are used. Sexual excitement is therefore a sign of poisoning, or at least of excessive doses.

Phosphorus in Neuralgia.—Dr. Bradley (*London Lancet*) writes: "The remedy which had worked so speedy, and as it proved in the sequel, so permanent a cure, consisted of the so-called mother tincture of phosphorus, of which he was ordered to take five drops on the advent of an attack, and repeat them as occasion required.

"This tincture of phosphorus is a solution of phosphorus in ether, which dissolves about one per cent., so that each dose contained about one-twentieth of a grain of phosphorus—scarcely homœopathic according to old-fashioned notions; *mais cela va sans dire.*

"Not only was the pain relieved, but the frequency of the attacks was lessened, until from suffering a seizure two or three times a week, as he had for some years, he has now been entirely free for more than four months.

"Since the occurrence of this case, I have frequently employed this preparation of phosphorus, and have often found it of signal service in curing neuralgia: especially, it has appeared to me, in those subjects who add to a highly nervous temperament some cause of nervous waste; so that I have considered it probable that the neuralgia has, indeed, in these cases been, as Romberg styled it, "the cry of the hungry nerve for blood," or, rather, for its own special pabulum in the blood, and that the phosphorus has directly supplied this want."

Therapeutical Action of Quinine.—M. Sée has been delivering at La Charite a series of clinical lectures on the therapeutic action of quinine, from which the following observations are quoted. M. Sée is among the most advanced of that class of therapeutists who believe that the action of drugs in disease may be predicted and explained by their physiological action in health. The following are a few of the views advanced by him founded upon the known action of quinine in health, and in malarial fevers and acute rheumatism: In health quinine has a three-fold action; first, it diminishes the frequency and force of the action of the heart; second, it lowers the tension in the arterial system; and third, it lowers the temperature, or prevents its elevation by exercise, etc. Whilst recognizing its action on the amœboid movements of the white blood-corpuscles, as shown by Cohnheim, Binz, and others, he does not regard this as of great importance.

In an able analysis of the various forms of malarial fever, and the teachings of experience as to the value of quinine in each, he concludes that the drug cannot be regarded as a specific or counter-poi-

son; as, (1) it does not prevent malarial poisoning when taken as a prophylactic; (2) it does not prevent recurrence after a variable period; and (3) it is useless in some of the most fatal forms, especially where the fever tends to assume a continued type. Moreover, he points out that in other fevers which present the characters of periodicity and the occurrence of initial rigor—*e. g.*, urethral fever from catheterism,—quinine has an equally beneficial effect. He believes that the effect of quinine in ague is due to its three-fold action, exerted chiefly during the period of rigor: by its action on the heart, it diminishes its frequency and force; on the peripheral arteries it lowers their tension and produces dilatation; on the spinal cord and vasomotor centres, acting as a sedative, it tends to diminish their excitability; and, lastly, it exerts a direct cooling action on the system generally, the latter, however, being the least important factor.

In acute rheumatism, M. Sée considers it by far the most valuable medicine; and states that he always returns to it with benefit after the trial of all other methods of treatment. Here, again, he sees in its physiological action the most precise indications for its use. Especially in its effect on the spinal cord—in lowering its irritability, and thus diminishing the sensibility to pain; and lessening reflex excitability, and thus reducing irritation and the afflux of blood to the inflamed joints—does he consider that its value lies, its action on the vascular system and in lowering temperature being also beneficial. The dose M. Sée recommends is from ½ to 1½ grammes (or 8 to 24 grains nearly) in the day; increasing it, however, to 2 or 3 grammes, or even more if needful. It may be mentioned that this mode of treatment is adopted by a large number of the leading physicians in Paris, either exclusively or with other means; and they all appear to be unanimous in its favor. It is only in the acute stages that M. Sée considers it beneficial, except for the relief of pain; and in this respect it is also useful in gout.—*Lancet.*

Differences in the Physiological Action of Bromal Hydrate and Chloral Hydrate.—Dr. John McKendrick lately read a paper on this subject, which appears in the *Edinburgh Medical Journal.* He thus compares the action of these substances:—

1. Bromal hydrate is the more active substance physiologically.

2. Chloral hydrate produces in small doses, or even after a large dose, marked hyperæsthesia, followed by anæsthesia. Bromal hydrate never produces hyperæsthesia and anæsthesia except when the animal is in such a state of coma that there is no hope of its recovery.

3. Chloral hydrate does not usually produce great contraction of the pupil; bromal hydrate always does.

4. Chloral hydrate acts chiefly on the cerebral hemispheres, and never, so far as the author knows, has been known to cause convulsions. Bromal hydrate acts less vigorously on the hemispheres and more on the ganglia at the base of the brain and on the spinal cord, the animal frequently dying in a state of opisthotonos.

5. After death from chloral hydrate, fluid is rarely found in the shut sacs of the body. In the case of bromal hydrate fluid is almost invariably found.

6. Chloral hydrate does not usually stimulate the salivary glands to the same extent as bromal hydrate does, but, in this instance there are exceptional cases in which the chloral hydrate causes excessive secretion of saliva in animals.—*The Doctor.*

The Treatment of Ammoniacal Cystisis by Benzoic Acid.—In a second paper (*Archives Générales de Médecine*, Nov., 1874), MM. Gosselin and Robin advise the use of benzoic acid as a corrective to the ammoniacal state of the urine. The drug may be given dissolved in large quantities of water, or suspended in mucilage. The initial dose is 15 grains, but it should be rapidly increased to 45 or 60 grains, and may even be carried in some cases to 90 grains; at this dose, however, heat and dryness of the fauces begin to be complained of. The action of the acid upon the altered urine is not immediately recognized; but in seven or eight days the ammoniacal character and fœtidity generally disappears, and phosphatic deposits cease to form. The conclusions of this article are as follows:

1. The ammoniacal state of urine causing a large part of the accidents which follow operations on the urinary organs, it is desirable to diminish or suppress that condition.

2. Benzoic acid, balsams which contain it, and probably other vegetable products (salicine, cinnamic acid, etc.), produce this result.

3. Hippuric acid, which is the product, acts in several ways; (*a*) by forming hippurate of ammonia, which is less toxic than carbonate of ammonia; (*b*) by retarding the decomposition of the urine, and consequently the production of the carbonate of ammonia; (*c*) by preventing the formation of insoluble phosphatic deposits which are the cause of cystitis and the origin of calculus.

4. The administration of benzoic acid is advisable for patients suffering from ammoniaco-purulent cystitis, and particularly for those who are to undergo operations upon the urinary organs.

Collodion and Morphine in Shingles.—After exhausting all the methods advised for the treatment of shingles, and especially the attrocious pains which attend this disease, Dr. Bourdon adopted the follow-

ing:—A stratum of morphinated collodion (collodion 30 grammes, muriate of morphia 50 centigrammes) was applied to the diseased parts without opening the vesicles. The pain ceased on the second day, and after seven or eight days, when the pellicle fell off, the vesicles had entirely disappeared, and only a slight redness was apparent.—*Gaz. Med. Ital.*

Strychnia as an Anti-Emetic.—Dr. Thomas E. Dupuis reports in *The Canada Lancet*, a case of obstinate vomiting in a delicate female, which was absolutely uncontrollable, and continued until the most extreme prostration had occurred. After nearly all other remedies had been tried unsuccessfully, the following solution was given in drachm doses every two hours: ℞ Liquoris strychniæ, ♏xx; aquæ, ℥iv. The effect was very sudden and decided; the vomiting stopped entirely within a few hours, and the patient soon recovered.

MATERIA MEDICA.

PREPARATION AND PROPERTIES OF POTASH-WATER GLASS INTENDED FOR SURGICAL USE.

BY JULES REGNAULD.

A CONCENTRATED solution of silicate of potash possesses the property, when exposed to the air in thin layers, of drying quickly and leaving behind a strong amorphous and tenacious film, which is well adapted for joining the surfaces of two solid bodies when placed in contact. Within the past few years this property of water-glass has been employed in surgery for strengthening bandages used to hold together fractured limbs, for which purpose starch paste, dextrin, and plaster-of-Paris were previously employed. This use of water-glass was first proposed by Dr. Michel, of Cavaillion, in an essay published in February, 1865, in the *Société Médicale de Vaucluse.* A few months later Prof. Such, in Vienna, and Prof. Angelo Minich, in Venice, used such bandages, although they had not then heard of Michel's work. According to the experiments of Gaye and Espagne, these bandages are lighter than those previously in use, especially those of plaster-of-Paris, and offer more resistance to bending through pressure or drawing; beside, they are cheap, easily applied, and make a beautiful and smooth band; they do not dry and harden so rapidly as those of plaster, but more rapidly than starch and dextrin bandages.

In Paris most surgeons have adopted this kind of bandage. The quantity of potash-water glass sold in 1865, by the Central Apothecary in Paris, to the hospitals was 10 kilos.; in 1873, the quantity had increased to 2,223 kilos. The quantity of dextrin furnished in 1865 was 402 kilos., which was reduced in 1873 to 55 kilos.

The solution of silicate of potash used for surgical purposes in Paris is thick and colorless, having a specific gravity of 1.283, or 33° Baume. Gaye and Espagne have found that the silicate of potash obtained from the large manufactories is preferable to that prepared by themselves according to the formula given in hand-books on chemistry; the author, too, has failed in his attempts to prepare, on a small scale, a

water-glass suitable for surgical purposes. Facts communicated to him by Mr. Boissi, the manager of a large manufactory of silicated alkalies explain this curious circumstance. Boissi states that, by the use of the proper quantity of each material and a special method of dissolving the silicate, he regularly obtains a product the adhesive property of which satisfies the surgeons.

The density of the solution of pure silicate of potash must not exceed 33° B.; if the density is 35° B. (sp. grav. 1.306) it is so tenacious that it will not flow below a temperature of 68° Fahr., and hence cannot be employed in winter. Manufacturers do indeed furnish solutions of silicate of potash of 35° and even of 40° B., which do not possess these properties, but this greater density is obtained by adding more or less caustic soda when concentrating the solution of silicate of potash. This adulteration diminishes the selling price of the product, but increases, to an injurious extent, its causticity; and weakens its adhesive powers, which is in surgery its most valuable property.

It is, therefore, safe to assume that solutions of silicate of potash, which have a specific gravity of 35° to 40° B., and remain liquid below a temperature of 68° F., are adulterated with caustic soda or silicate of soda. The power which silicate of soda possesses of destroying the adhesive power of silicate of potash explains the failure of some experiments and the complaints of surgeons, for potash-water glass is sometimes furnished which stands at 40° or even at 45° B., but which is adulterated with an enormous quantity of silicate of soda.

The value of a given specimen of water-glass for surgical purposes cannot be determined by merely taking its specific gravity, but, when this exceeds a certain limit, it is an indication of adulteration. To determine the amount of soda in it, Personne's method may be employed. This method depends on the fact that the bitartrate of potash is almost entirely insoluble in aqueous alcohol, while the corresponding soda salt is soluble therein. The author, however, recommends the following method, which has long been in use in the Central Apothecary in Paris. A bandage 50 centimetres long is dipped into the water glass and pressed lightly between the fingers, so that it remains impregnated with the water-glass. The bandage is then wrapped about a wooden cylinder five centimetres (two inches) in diameter, and the cylinder placed in a room with a moderate temperature. The time which it takes for the water-glass to dry out and become solid is noted; the bandage is then unwrapped, and the resistance which it offers shows the adhesive power of the water-glass. In cases where greater accuracy is necessary, the time required for it to become solid can be compared with the time required by a sample of water-glass known to be pure, both being kept at a constant tempera-

ture of 117½° Fahr. The adhesive power would also be compared by the weight required to detach strips of the same size from a smooth surface of wood.

A small quantity of silicate of soda has very little effect on the adhesive power of the silicate of potash, but as soon as the proportion of the former to that of the latter reaches one to fifteen, the adhesiveness is considerably modified. When the quantity of silicate of soda is still greater, the adhesiveness rapidly decreases.

The adhesiveness of potash-water glass which is pure or contains only traces of foreign salts depends on the amount of silicic acid in the silicate of potash used in its manufacture, and on the degree of concentration. Boissi and Berthelot have found that the less alkali the solid silicate of potash contains the better the solution will be for surgical use. When manufactured on a small scale with the heating arrangements used in laboratories, and using the quantities recommended in the books, the product is too alkaline, and gives a caustic solution.

Boissi and Berthelot, after numerous experiments, have succeeded in making glass which contains only 30 per cent. of potash. This glass is obtained by the action of 63 parts of fine dry white sand from Fontainebleau upon 33 parts of purified carbonate of potash which stands at 78° of alkilinity.

The preparation of this glass takes place in a flame furnace with an elliptical hearth; 960 kilos. of the mixture, consisting of 630 kilos. of sand and 330 kilos. of carbonate of potash, are heated for four hours to a white heat; the product consists of 845 kilos. of a very homogeneous and colorless or light amber-colored glass. This glass is very slightly soluble in boiling water, so that to dissolve it at 212° F. a long time and a large quantity of water are required. There is a double disadvantage in this—the glass splits up into alkali and soluble silicic acid, while the evaporation requires a large consumption of fuel. Boissi and Berthelot have devised an interesting original method for dissolving the glass and preventing dissociation of its constituents. The coarsely-broken glass is mixed with water enough to form a solution of 33° to 35° B., and introduced into an iron vessel, similar to a Papin's digester, which can stand a high pressure. The water must be as pure as possible, and carefully deprived of all lime salts, which form insoluble silicate of lime, rendering the solution milky and opalescent. Under the influence of this high pressure attained in the digester, the solvent power of the water increases, so that all the silicate of potash dissolves, while suffering no perceptible change of composition. This explains why soluble glass, thus prepared, is superior to the more soluble sort obtained on a small scale in the laboratory, and which is necessarily more alkaline.—*Jour. of Applied Chemistry.*

ON SOME PREPARATIONS OF COCA.

Mr. E. B. Shuttleworth, editor of the *Canadian Pharmaceutical Jour.*, writes of this substance and its preparations: "Some time ago a sample of coca leaves, weighing several pounds, was forwarded to the writer, and was accompanied by a request that experiments should be made with a view of determining the most eligible form in which the drug might be administered. As the coca plant is coming more frequently into notice, and as its powerful remedial properties favor the idea that, sooner or later, it will be introduced into the materia medica, I have thought it advisable to offer a record of the results of these experiments, together with that of others, made for the purpose of ascertaining the best formulæ for possible preparations of the drug.

"In devising formulæ of this kind it is essentially necessary that the nature and properties of the active principle or principles of the drug operated upon be well understood. The literature of coca does not, however, afford information of as precise and thorough a character as might be desired, but for practical purposes it may, perhaps, be sufficiently definite. Niemann* made a proximate analysis of the plant, and gives, as its constituents, a crystallizable basic substance (cocaina) a volatile odoriferous substance, a peculiar tannin (cocatannic acid) and a waxy body termed coca-wax. Stanislas Martin† found a peculiar bitter principle, extractive, chlorophyll, a substance analagous to theine, and salts of lime. Maisch‡ was led to think that the leaves contained a volatile alkaloid. This supposition was subsequently confirmed by Lossen,§ who isolated this principle, and, at the suggestion of Woehler, who was associated with him in these investigations, named the new alkaloid *hygrina*. Lossen also found that cocina, where heated with muriatic acid, was decomposed, benzoic acid and a new base, *ecgonia*, being produced. This fact operates against attempts to extract coçaiana with acid liquors, and its importance was recognized by Lossen who recommended the abandonment of Niemann's plan, in which acidulated alcohol was employed, and the substitution of infusion with simple water.

"Thus far, then, we have as important and tolerably well-established constituents of the leaves, cocaina, hygrina, cocatannic acid, coca-wax, and a volatile oil, to which the odor of the plant is due; of these, the first-named alkaloid is undoubtedly that to which attention should be principally directed in any attempt to make a preparation representing the active medicinal properties of the plant.

* *Arch. Pharm.*, p. ciii., pp. 120 and 291, *Chem. News*, July, 1860.
† *Jour. de Pharm.*, 1859, p. 283. ‡ *Am. Journ. Pharm.*, ix., p. 496.
§ *Ann. Chem. Pharm.*, cxxi., p. 374.

"The characteristics and properties of the alkaloid may be concisely given as stated by Watts:* 'Cocaina crystallizes in small, colorless, inodorous poisons; it has a slightly bitter taste, and produces temporary insensibility of the part of the tongue with which it comes in contact. It is soluble in 704 parts of water at 12° C. (53.6° F.), more soluble in alcohol, and still more so in ether. It melts at 98° C. (208.4° F.), and solidifies to a transparent mass, which gradually becomes white and crystalline. At a higher temperature, a very small portion appears to volatilize undecomposed, but the greater portion is decomposed, yielding ammoniacal products. Cocaina dissolves without color in strong nitric, hydrochloric, and sulphuric acid; the last solution becoming black when heated. It is strongly alkaline, dissolves in dilute acids, and neutralizes them completely.' In most of its reactions cocaina resembles atropia, but that with carbonate of ammonia is different, and the melting points of the two alkaloids are not coincident. The formula assigned to it is $C_{16}\ H_{19}\ NO_4$.

"Hygiene, the other alkaloidal constituent of coca, assumes at ordinary temperatures the form of a thick oil of yellowish color. It possesses a strong alkaline reaction, a burning taste, and an odor of trimethylamene. It combines with hydrochloric acid, forming a deliquescent salt. It is to some extent soluble in water, and dissolves readily in alcohol and ether. It does not appear to be poisonous.

"These points which bear directly on the subject of this paper, and which are embodied in the above particulars are, that coca contains two active principles on which its medicinal virtues depend; that one of these is mutable in the presence of acids, the other volatile, and therefore liable to be dissipated by heat, and that both are soluble in alcohol and water. We are not, however, informed in regard to the peculiar state of combination in which these alkaloids exist in the plant. That they are combined with some acid appears probable from the fact that the addition of a little lime or other alkali develops, to a much greater extent, the characteristic taste and also the activity of the drug. This has been recognized for ages by the millions of persons addicted to the use of coca. Von Tchudi, Poppig, Herndon, Weddell, and other travellers affirm that in preparing the leaves for chewing, the addition of lime, *llipta*, the ashes of plants, as *Chenopodium Quinoa*, or other alkaline substances, is generally made. A simple infusion is, however, often employed, and the full effects of the medicine appears to be realized from its administration. This is the oldest, and almost the only preparation of coca which has been used, and to this attention may, with propriety, be first directed.

* Dictionary of Chemistry, i., p. 1059.

"*Infusum Cocæ.*—Take of coca, bruised, one ounce; boiling water, ten fluid-ounces. Infuse in a covered vessel for one hour, and strain.

"This preparation resembles in appearance and odor an infusion of ordinary green tea. Its taste is slightly bitter and alkaline, recalling infusion of spearmint. The benumbing sensation experienced when the leaves are chewed, is not so perceptible in the infusion. By applying slight pressure to the dregs, about eight ounces of liquid may be recovered.

"Each ounce of the preparation will therefore be equivalent to a drachm of the leaves. The dose may be from one to two fluid-ounces.*

"*Ext. Cocæ Aquosum.*—Coca in moderately coarse (No. 40) powder; water a sufficiency. Macerate the coca with four times its weight of water, for 12 hours, at a temperature not exceeding 120° F. Transfer to a percolator and exhaust with water. Evaporate, by means of a water bath, to the consistence of an extract.

"The extract, thus prepared, is of a dark brown color, and bitter but not very characteristic taste, 100 parts of leaves yield 36 parts of extract. The dose may be from 15 to 30 grains.

"*Ext. Cocæ Alcoholicum.*—Coca in moderately fine (No. 50) powder; alcohol, sp. gr. 838, a sufficiency. Moisten the powder with alcohol and pack tightly in a percolator. Add alcohol, and continue the percolation until the powder is exhausted. Evaporate the percolate, by means of a water-bath, at a temperature not exceeding 150° F., until the extract is of proper consistence.

"This extract is much superior to that prepared by water, possessing, in the highest degree, the characteristic taste and odor of the plant; and, as far as I have been able to ascertain by experiments upon myself, possessing also in full its medicinal properties. It is of a green color, resembling extract of Indian hemp, and is apparently resinous in character. This characteristic is attributable to the coca-wax or other concrete oily substance with which the extract is mixed. When exposed to the air the extract does not harden, but slowly attracts moisture, becoming, in time, quite liquified. I regard this extract as one of the best forms in which coca can be administered. It can be readily formed into pills, and is perfectly reliable. The product from 100 parts of the leaves is 15 grains. The dose may be from 10 to 20 grains.

* A description of the therapeutical effect of coca does not properly come within the limits of this paper. But for information regarding the remedy, as administered by infusion, the reader is referred to a Prize Essay on the subject, written by Dr. Mantegazza, of Milan, and of which abstracts may be found in the *Pharm. Journ. and Trans.* 1860, and the *Druggists' Circular*, vol. iv., p. 253.

"*Ext. Cocæ Fluidum.*—I have not had time to experiment upon this preparation, but would suggest, as a menstruum, alcohol of sp. gr. .835 or .838; the reservation of a portion of the percolate equivalent to three-fourths of the weight of the leaves employed; and evaporation of the remainder, at a temperature not exceeding 150° F.

"*Tinct. Cocæ.*—A tincture containing four ounces of coca to one imperial pint of proof spirit, or diluted alcohol, may be prepared by percolation, but such a preparation does not appear to be advisable or necessary. The large quantity of alcohol which each dose would contain might entail therapeutical complications which it would be well to avoid. For administering the drug in a liquid form the infusion will be found as simple and as liable as any, and by the addition of a small quantity of alcohol—say one-eighth part—it might be preserved from change for a reasonable length of time."

THE AMERICAN TEA.

GROWING along the Atlantic coast of the United States, from Virginia southward, is the Ilex cassine, or, as it is sometimes called, the American tea,—a plant whose leaves, mixed with those of other species of the same genus, were used by the aborigines in forming the decoction known as "yaupon," or "black drink." The maté of Paraguay is closely allied in its botanical relations to the plant under consideration. It is well known that this Paraguay tea contains largely of theine, and the fact that the Northern Indians used our Ilex very much as the aborigines of Paraguay used their Ilex, ought, one would think, to have attracted attention long ago to the North American plant.

During the Revolution the leaves of the Ceanothus Americanus were used as a substitute for the Chinese herb, and, possibly owing to this fact, some few years since a company was organized for the purpose of producing, and actually did produce, a "tea" prepared from the Ceanothus. Analysis showed, however, that this product contained no theine; and although the New Jersey staple was quite extensively advertised, it soon disappeared from sight. Subsequently, we were informed by a dealer that this American tea was still manufactured, but that it was used solely for the adulteration of the genuine article. Whether or not it is still produced we do not know.

A Mr. H. M. Smith has recently made an analysis of this "yaupon" (*The Journal of Applied Science*, September 1, 1874), and found that it contains a very large percentage of theine, besides a peculiar volatile oil having a tea-like odor. The specimen analyzed was composed in a

very large proportion of twigs, yet the percentage of theine present was as great as that usually found in maté. The following table expresses the proportion in one hundred parts of the substances named:

	Yaupon.	Maté, or Paraguay tea.	Black tea, average.	Green tea, average.	Green tea.	Coffee.
		Stenhouse.	Mulder.	Mulder.	Peligot,	Payen.
Volatile oil.....	0.01		0.63	0.88	0.50	0.003
Caffeine.....	0.12	0.13	0.56	0.52	6.00	1.00
Tannin.....	2.41		2.04	17.68	14.00	10.00

The yaupon leaves were a regular article of commerce among the North American Indians. The "black drink" was used by the Indians, especially at their councils and tribal feasts. It was taken very strong and in large quantities, and is said to have frequently acted as an emetic. It contained, however, besides the leaves of Ilex cassine those of the Ilex vomitoria and of other species of the genus, and it is possible that it owed to them its power of causing vomiting. Evidently, if the Ilex cassine possesses a persistent emetic property it will never afford a cup of tea which shall be popular with the white man. A general emesis might be a bond of misery among a council of Indians, but would hardly suit the average sippers of Bohea. Mr. Smith, however, failed to detect any emetic principle in the Ilex cassine, and the subject seems to demand further investigation.—*Medical Times.*

Cultivation of Vanilla in the Island of Reunion.—The cultivation of the vanilla plant has recently become in high favor in the island of Reunion in consequence of the enormous increase in its value, which is stated to have quintupled during the last eighteen months, and to be still increasing. Last year's crop, however, fell short of that of 1871–72, by something like 2,000 kilos., while in Mexico, the great rival of Reunion in vanilla, the decline was still greater. The value of the vanilla exported from Reunion last year, was upwards of £50,000. It is said by the people of Reunion that the Germans contracted a taste for vanilla in confectionery during their stay in France during the late war, and that owing to the great increase in their wealth by the payment of the French indemnity, they are now able to indulge that taste. At any rate, a large portion of the vanilla now grown in this island is exported to Germany, to supply a demand that has sprung up since that time. Unfortunately, the island is devastated by periodical cyclones, which make it very difficult to culti-

vate successfully a plant like the vanilla, notwithstanding the support and shelter afforded by the trees, or espaliers, on which it is trained. It suffered immensely in the cyclone of 1872, and one that has recently passed over the island has probably seriously compromised this year's crop.—*Phar. Jour. and Trans.*

BOLDO.

YET another South American plant, with an odd name, applies for admission to the Materia Medica. This time the new comer is introduced by Messrs. Dujardin, Baumetz, and C. L. Verne.

Boldo is a tree found in Chili, of a height of five or six feet, isolated on mountainous regions, with yellow blossom and a verdant foliage. Its barks, leaves, and blossom possess marked aromatic odor, resembling a mixture of turpentine and camphor. The leaves contain largely an essential oil. It contains an alkaloid which is already called "boldine." Its properties are chiefly as a stimulant to digestion, having a marked action on the liver. Its action was discovered rather accidentally, thus: Some sheep which were liver-diseased were confined in an enclosure which happened to have been recently repaired with boldo twigs. The animals eat the leaves and shoots, and were observed to recover speedily. Direct observations prove its action, thus, one gramme of the tincture excites appetite, increases the circulation, and produces symptoms of circulatory excitement, and acts on the urine, which gives out the peculiar odor of boldo.

THE NATURE OF DIFFERENT GUMS.

DR. SACC, of Neuenberg, Switzerland, has made an extensive inquiry into the nature of different resins. We condense from it the following results:—The resins spoken of are copal, amber, dammar, common resins, shellac, elemi, sandarach, and mastic. All these resins can be reduced to powder.

The following will become pasty before melting:—Amber, shellac, elemi, sandarach, and mastic; the others will become liquid at once.

In boiling water, common resin will form a semi-fluid mass; dammar, shellac, elemi, and mastic will become sticky; while copal, amber, and sandarach will remain unchanged.

Dammar and amber do not dissolve in alcohol; copal becomes pasty; elemi dissolves with difficulty, while resin, shellac, and mastic dissolve easily.

Acetic acid makes common resin swell; on all the others it has no effect.

Caustic soda dissolves shellac readily; resin partly; but has no influence on the others.

Amber and shellac do not dissolve in sulphide of carbon; copal becomes soft and expands; elemi, sandarach, and mastic dissolve slowly; while resin and dammar dissolve easily.

Oil of turpentine dissolves neither amber nor shellac, but swells copal; dissolves dammar, resin, elemi and sandarach easily, and mastic very easily.

Boiling linseed oil has no effect on copal and amber; shellac, elemi, and sandarach dissolve in it slowly, while dammar, resin, and mastic dissolve easily.

Benzol does not dissolve copal, amber, and shellac, but does elemi and sandarach to a limited extent, while dammar, resin and mastic offer no difficulty.

Petroleum ether has no effect on copal, amber, and shellac; it is a poor solvent for resin, elemi and sandarach, and a good one for dammar and mastic.

Concentrated sulphuric acid dissolves all resins, imparting to them a dark brown color, excepting dammar, which takes a brilliant red tint.

Nitric acid imparts to elemi a dirty yellow color; to mastic and sandarach a light brown; it does not affect the others.

Ammonia is indifferent to amber, dammar, shellac and elemi; copal, sandarach, and mastic become soft, and finally dissolve; while resin will dissolve at once.

It is not difficult, by means of these reactions, to test the different resins for their purity.—*Dingler, Polytech. Journal.*

PARAFFINIC ACID.

M. Pouchet, the son of the late distinguished physiologist of Rouen, France, lately sent in a paper to the Paris Academy of Sciences on the behavior of paraffin when treated with fuming nitric acid at 47° Baume. We know that it absorbs oxygen, and is transformed into an oily liquid, having a slight yellowish-green hue, called by M. Champion "paraffinic acid," a denomination to which M. Pouchet objects. He says that, in whatever way the attack be conducted, provided we do not exceed a temperature of 110° Centig., and stop the operation when the consistency of butter is obtained, the results are pretty nearly the same, and may be reduced to two kinds, viz.: soluble and insoluble compounds. The former

consists of caproic, then butyric, caprylic, capric and other fatty acids accompanied with suberic, valerianic, œnanthylic and similar acids, some of which may be obtained crystallized from the mother lye. As for the compound, that is insoluble in water, M. Pouchet having got rid of it by frequent washing from the acids which soil it, finds it to be a new fatty acid, to which he restricts the denomination of "Paraffinic." In support of this view, he says it is reduced to the state of an emulsion by the volatile fatty acids that encumber it; hence, if in this state it be subjected to long ebullition with water, the steam evolved will carry off all these parasitical compounds and decompose their nitrous derivatives, and solid paraffinic acid will alone remain in the retort. This compound, in its pure state, is of a slightly yellowish white, and lighter than water; it has a smell of wax. Its color deepens by melting and is easily decomposed by heat into a variety of hydracarburets of an exceedingly unstable nature. Under the influence of moderate warmth it may be lighted with a match, and will then burn with a clear flame, emitting much fuliginous matter. It is insoluble in water, but will dissolve in diluted alcohol, and much more completely in concentrated spirits of wine, ether, chloroform, benzine, petroleum, etc.

The Preservation of Leeches.—Mr. George H. Burnham writing to *The Laboratory*, remarks that many pharmacists have, no doubt, found the preservation of leeches a matter of great annoyance and loss.

The more common usage is to place them in earthen jars with perforated covers, and containing a quantity of earth; the leeches being looked to occasionally to ascertain their sanitary condition.

I have also known the druggist to place old water-logged sticks, with a few pebbles, in a proper vessel, forming a sort of artificial pond. The leeches free themselves from the slime which collects upon them by drawing themselves through the debris at the bottom of the aquarium.

The following method for the preservation of leeches, has, in my experience, been most successful. Half a dozen "tenpenny" nails are placed at the bottom of a glass jar holding about eight pints—upon them is placed a piece of very porous sponge.

The jar being filled with water, we have an aquarium in which two dozen leeches will live for many months without a single loss by death; a piece of lawn of about one hundred meshes to the square inch should be secured by a strong rubber band to the top of the jar in order to prevent the escape of the leeches.

When the water is changed, the sponge should be thoroughly cleansed, to remove a quantity of slimy matter from the cells.

It is said that the presence of metallic iron in water prevents it from becoming putrid. This influence is very marked in water in which leeches are preserved, in consequence of which, the change of the water becomes unnecessary except after long intervals.

The jar containing the leeches should be kept at a comparatively even temperature from 55° to 65° F., excluded from sunlight, and a quantity of fresh water added every five or six days.

The *Journal of the Society of Arts*, says: Paris is the best market in Europe for leeches. The mouth of the Danube is now the best fishing ground, and no less than £120,000 in value of leeches are annually sent to Paris from Trieste. The best leech is said to be a native of Australia, as he does his work in a shorter time than any other. The viceroy of Egypt has granted a monopoly of 3,000,000 leeches annually, which are to be found in the bed of the Nile after the periodical inundation of that river, to a French dealer. On arriving in Paris, those not required for active duty are sent to Gentilly, where they are lodged in reservoirs provided with greasy mud and filled with greenish water.

Saffron.—The production of saffron is considerable in France, but is confined to three departments of which Loiret produces the largest amount and best quality. It is a peculiar industry, and little known even in France. The soil devoted to the growth of saffron yields its best crop during the first year, less is derived from it the second year, and at the end of three years it is exhausted, and according to the local proverb, the land is so poisoned that it cannot be used for the same purpose for fifteen or sixteen years more. The average crop of the second and third year is various—from nine to twenty-seven pounds per acre of dry pistils; each acre produces about six or seven hundred thousand bulbs, and each bulb two or three flowers. About 30,000 flowers are required to produce two pounds of fresh pistils, which, when dried, are reduced to about one-fifth that weight; the pistils are the only productive portion of the flower, the rest is waste.

The labor of picking such enormous quantities by hand is very great, and when the crop is large, and laborers scarce, the flowers are carried into the villages and small towns round about to be picked by women and children at home. In such cases all the world is busy saffron picking; artisans, shopkeepers, gentlemen and ladies, all assist in the work, the poor working for their own profit, the rich for the benefit of the necessitous. The farmer has to pay from 10d. to 4s. a pound for the picking, according to the abundance of the crop.

When the pistils are separated they have to be dried, and this operation is effected by placing about a pound of fresh pistils in a horsehair sieve suspended over a little charcoal furnace, as soon as it is dry the saffron is ready for sale. Commercial travellers generally buy up the saffron which goes by the name of the most famous district, Gatineas, principally for Germany, where it is said to be mixed with Spanish saffron and re-sold as a German product.

Saffron requires a peculiar soil, and the land which suits it is worth three or four pounds an acre, or double the rent of ordinary land in the same district, but the saffron itself sells on an average for thirty shillings or two pounds for a pound weight, and, when very fine, for double those rates; in very extraordinary years, which, however, only occur once or twice in a century, saffron is worth as much as £8 per pound. Altogether, it is an interesting example of agricultural industry.—*Tennessee Pharmacal Gazette.*

Myristicin.—At the meeting of the British Pharmaceutical Conference, Professor Flückiger, of Strasbourg, read a paper on this subject. According to Gmelin it appears that essential oil of nutmegs sometimes deposits a kind of camphor. In 1821, J. F. John noticed this substance and designated it by the name *Myristicin.* He described it as soluble in water and even perfectly dissolving in nineteen parts of boiling water. He was of the opinion that it was a kind of alkaloid, but Gmelin says that its aqueous solution was sometimes acid, sometimes alkaline. Other observers experimented on these substances, and ascribed to it properties of a diverse character. Dr. Flückiger obtained from Messrs. Herrings & Co., a quantity of this so-called camphor, obtained in the distillation of oil of nutmeg and collected with that oil towards the close of the process. It is described as a grayish, semi-solid mass, which, washed with alcohol and crystallized from boiling alcohol, was in the form of brilliant, colorless scales, smelling strongly of nutmegs. After some time this odor disappears. The crystals are soluble in warm alcohol; insoluble in water; melt at 45.5° C.; are soluble in solutions of the caustic alkalies, forming a kind of soap. Analysis gave the composition:

Carbon	73.41.
Hydrogen	14.25.
Oxygen	14.34.
	100.00.

This coincides with the composition of myristic acid, and such the author supposes myristicin to be.

Iodine.—South America has become a competitor for the sale of this article. And the effect it has had in the price is great. In 1871 it sold at 25d. per ounce, but now is quoted at 7d. The European producers will not be outdone, however, but intend "working" the Peruvian competitors in such a manner that they must either join in a new arrangement or be shut out of the market altogether. Just how they can force the Peruvians to accept their terms, unless they wish to, is not quite plain.

The Iodine produced by them is very good and quite satisfactory, averaging 97½ per cent. prime, the rest water and free from lead; moreover, it is equal to the Scotch. At present there are some difficulties experienced in resubliming, but that will be mastered when new machinery is put in operation, which will be done in time. Large quantities come from nitrate of soda districts, and is put up in packages of 100 pounds. Spanish, subject to an export duty of 30 soles per quintal—or $1.

Crystallized Bismuth.—It is well-known that bismuth, when pure, forms beautiful groups of very beautiful crystals, which exhibit a splendid play of colors, and resemble somewhat a huge fortification. In order, says Boettger, to obtain perfect crystals, the impure bismuth of commerce should be fused for half an hour with the twentieth part of its weight of nitrate of potash in a small porcelain crucible over a simple gas-burner, the mass being stirred occasionally with a clay pipe-stem. The slag must then be carefully removed and the metal poured into a small wooden box which is perfectly dry. It is left there until the greater part of the metal which touches the sides of the box becomes solid, only the centre of the mass remaining fluid. By carefully turning the wooden box, the fluid portion can be poured into an iron dish. By sawing through the mass which has cooled in the box, a group of silver-white crystals will be found, some of which are perfect octahedra.—*Jour. of Applied Chemistry.*

Uncertain Strength of Unguentum Hydrargyri.—Mr. J. A. Muthersbough (*Am. Jour. Pharm.*), made an examination of ten samples of ointment, obtained from different establishments (in Philadelphia?), and though in each case the preparation was represented to be in conformity with the U. S. standard, the quantity of mercury present was found to be remarkably variable. Ung. Hydrarg., U. S. P., contains 50 per cent. of mercury; the samples examined yielded respectively, 48½, 48½, 48, 46, 30, 30, 26, 25, 24, and 22 per cent.

Syrup of Hypophosphite of Iron.—At a recent meeting of the Society of Pharmacy of Bordeaux (reported in the *Bulletin des Tra-*

vaux and of which a summary appears in the *Pharm. Journal and Trans.*), M. P. Carles took occasion to criticize the various processes for the preparation of the above syrup. The formula of Wood (*Pharm. Jour. and Trans.* vol. ix., 461), and also that of Hardy, were especially referred to, and were stated to be open to certain objections. The former process was found defective on account of the addition of the phosphoric acid, by which the nature of the product was changed; by the instability of the syrup, and by the inaccurate proportions of the ingredients. Hardy's process was found tedious; the salt operated upon—hypophosphite of baryta—is not generally to be met with in commerce; and without great care and experience there is a liability of the product being contaminated with portions of the undecomposed and poisonous salt of barium. To obviate these inconveniences the author proposes the following formula:

Ferrous sulphate	15.00	grammes.
Hypophosphite of soda	9.14	"
Distilled water (boiled)	350.00	"
Powdered sugar	660.00	"

The ferrous salt is pulverized and dissolved in 20 grammes of the water and the hypophosphite in the remainder. The solutions are mixed and agitated, and, after a quarter of an hour, the magma is thrown upon a cloth and pressed. If necessary, the recovered liquid may be filtered through paper. A sufficiency of distilled water is added to make the quantity of liquid up to 360 grammes, and in this the sugar is, by the aid of a gentle heat, dissolved. The resulting syrup should be preserved in bottles kept as full as possible. Each spoonful of the syrup will contain 25 centigrammes of hypophosphite of iron. — *Canadian Pharm. Jour.*

Thapsia Plaster.—By J. S. Unzicker, M. D.—This plaster is made of the Thapsia Garganica, which grows in abundance on the plateaux of Algeria and has been recently introduced into therapeutics, and will no doubt render important services in the art of healing. "It owes irritating properties to a peculiar resin contained in its roots, rendering it a powerful derivative, whose action, on account of its form and consistence, may be graduated at will and limited to the very spot on which the physician wishes to obtain the effect. This result is impossible with croton oil, which, on account of its fluid state, spreads and acts on a larger space than desirable.

From the simplicity of its use it will no doubt gain favor with the profession, and be adopted in preference to croton oil or tartar emetic ointment, over which it has great advantages. Its revulsive action

manifests itself by miliary eruption more or less abundant, according to the time it has been applied. When the eruption disappears in a few days, the plaster may be reapplied, and thus a counter-irritation kept up for any desirable length of time.

New Preparation of Ergot.—A very active preparation of ergot, which is particularly adopted for subcutaneous injection, is suggested by Dr Wernich, of Berlin, who proposes to exhaust the drug with ether, strong alcohol, and finally with water. The infusion is then dialyzed through parchment paper, and the solution evaporated. This extract, after acidulation with sulphuric acid, was mostly soluble in alcohol, and when again carefully neutralized by soda, yielded all its active properties to weak alcohol.—*American Journal of Pharmacy, from Apotheker Zeitung.*

Hydrobromate of Quinine.—In the *Journal de Pharmacie* for September, M. Brille draws attention to the superiority of neutral hydrobromate of quinine over the neutral sulphate of the same base in respect of solubility in water and richness in quinine. The hydrobromate is prepared by pouring an alcoholic solution of officinal sulphate of quinine into a similar solution of bromide of barium until a precipitate ceases to be formed. The filtered liquid is diluted with water and the alcohol recovered by distillation. The aqueous residue is again filtered to remove excess of sulphate of quinine, and finally, concentrated and set aside to crystallize. This neutral hydrobromate is soluble in five times its weight of water. Its greater solubility and richness in quinine than acid sulphate enables it to be used with advantage in the place of the latter in liquid preparations, without producing the least irritation of the mucous membrane. In its action the effects of bromide are added to those of quinine.

Absolutely Pure Iron is said to have been prepared by a Russian chemist by means of the galvanic battery. During the process a large quantity of hydrogen was disengaged from the ordinary iron used. The pure iron is a silver white metal, very malleable and ductile, and so soft as to be readily cut with a pair of scissors. It oxidizes rapidly, and water is decomposed by it with the rapid absorption of oxygen.

Potato Bugs as Vesicants.—*The Medical and Surgical Reporter* says, that a chemical manufacturing firm in Indianapolis advertised last fall for one thousand pounds of potato bugs, which are to be used as a substitute for Spanish flies.

We have known for several years (say twenty-four years), by actual

experiment, in Concordia parish, Louisiana, that the potato bugs will vesicate just as certainly and efficiently as the *Lytta Vesicatoria* when prepared in the same way. The first intimation of this was given by handling them and mashing them in the fingers, when we had a painful realization of the fact. No experiments were made as to their action on the kidneys as a diuretic, but we have no doubt they will produce the same effect as cantharides.

Use of the Yucca.—The root-stock of all the Yuccas is, under the name of "Amole," an important article in a Mexican household, being everywhere used as a substitute for soap, as it is replete with mucilaginous and saponaceous matter, probably a substance analogous to the saponine of the *Saponaria* root. It is curious to learn that the negroes of the coast of Carolina repeatedly destroyed Dr. Mellichamp's carefully-preserved clumps of yuccas, in order to obtain the saponaceous root-stock. How may the knowledge of its quality have reached them? Perhaps from the West Indies.—*Journal of Applied Science.*

Aleppo Scammony.—This drug is now being imported very sparingly in consequence of the excessive sophistications it is made the subject of. It has several times of late brought retailers within the scope of the Adulteration Acts, and it is an article the genuineness of which should always be regarded as problematical. In 1872, 737 cases of it were exported from Aleppo, but last year 20 cases only were despatched thence, all of which came to this country. This falling off is so marked as to deserve being noted, and is an instructive commentary upon the effects of adulteration in certain trades. The Scammony of Aleppo never approached in purity that known in commerce as "virgin;" but unless there is some limit to the admixture with it of foreign substances, it will soon be an unmarketable commodity in the English drug market.—*Chemist and Druggist.*

The Peroxychlorides of Iron.—After having shown that since his father's researches a series of combinations from $Fe_2 Cl_3$, $Fe_2 O_3$, to $Fe_2 Cl_3$, 28 $Fe_2 O_3$, may be obtained by treating perfectly neutral perchloride of iron with varying quantities of peroxide of iron, M. Béchamp, junior (*Montpellier Méd.*), indicates the octoferric peroxychloride as the best for internal use. This officinal peroxychloride is given in doses of from five to twenty drops.

The following are the conclusions at which M. Béchamp has arrived:

The octoferric peroxychloride of iron is one of the compounds

most easily absorbed, as it is most readily transferred into compounds containing the minimum of iron.

It is easily tolerated by the system, as it is neither caustic nor irritant, and it does not offer the disadvantages that many preparations of iron do. It is tasteless and acts internally as a hæmostatic, in the same way as the perchloride of iron. It can be employed in surgery as a hæmostatic. It coagulates the blood in the same way as the perchloride of iron; but its powers of coagulation and its causticity diminish with the base of the oxychloride. The surgeon has, therefore, at his disposal liquids decreasing gradually and uniformly in astringency and causticity. Finally, it may serve as an antidote in cases of poisoning by arsenic.—*London Medical Record.*

Purification of Chlorate of Potassium.—This salt of potassa is so constantly in use by the dispensing pharmacist, that the demand itself should suggest that a saturated watery solution of it be kept on hand, for the purpose of facilitating its dispensing when required in the state of a solution. Yet our experience has been that this is not generally the case, in what would otherwise be styled well-regulated dispensing shops, and when this salt is ordered to be made into a solution, the usual method is the employment of powdered chlorate of potassium, which generally makes a turbid solution, due to the impurities always present in commercial powders of salts. An article has been in the market for a number of years, which is called *French* Chlorate of Potassium, commanding about fifteen to twenty cents more per pound than the commercial article, and is usually recommended by the wholesale dealer to the dispenser on account of its purity. Another article known as granular or purified, is sold at an advance of sixty-five to seventy cents per pound. Now this unnecessary outlay can easily be saved by the dispensing pharmacist, if he will prepare this purified salt for himself, as all that is requisite for the purpose is boiling water and filtering paper. The "*modus operandi*" is as follows: Take of commercial chlorate of potassium any weighed quantity, dissolve this in double its weight of boiling distilled water, and filter while hot through paper. As soon as the solution begins to cool the crystallization will commence, and proceed until fifteen ounces out of every sixteen ounces of chlorate of potassium employed, will have crystallized out of the solution. The salt is then collected upon a glass funnel (the neck of which has been loosely closed by a glass stopper), allowed to drain, and dried between folds of bibulous paper. The product thus obtained will have all the appearance of the so-called *French* article, and of such purity as that sold as purified. The mother solution which holds one-sixteenth of its weight of the salt in solution,

can easily be utilized for the purpose of gargles, etc., where a small quantity of chloride of potassium, which is usually the principle impurity of commercial chlorate of potassium, is not positively objectionable.—*Henry W. Lindenmeyer in the Pharmacist.*

Nitrite of Amyl.—Mr. Umney (in *The Chemist and Druggist*), says, regarding the manufacture of this substance:

Maisch* prepares it by the action of nitric acid direct upon amylic alcohol, and reserves that portion of the liquid for final purification which distils between 96° and 100° Cent.

Tanner† takes advantage of Redwood's process for spirit of nitrous ether (the British Pharmacopœia process), and prepares the amyl nitrite in this way. Other processes have also been suggested.

The chief points in the production of this body in a state of either absolute or even medicinal purity, first and foremost hinge upon the thorough fractional distillation of the fusel oil, until the amylic alcohol selected for use has a constant boiling point of 132° Cent. The crude nitrite, prepared by either of the processes indicated, must be washed with caustic soda, to remove prussic acid formed during the process, and nitrous compounds, and finally rectified over potassic carbonate.

That portion only is reserved for use in medicine which distils between 96° and 100° C.

The boiling point, as given in the Pharmacopœia, is not, I presume, intended to be the boiling point of absolutely dry and pure amylnitrite, indicated by Guthrie, as 99° (210° Fahr.), but rather an average boiling point of good medicinal nitrite, ranging through some eight or ten degrees of Fahrenheit's scale.

The specific gravity, as represented in the Pharmacopœia, is, I believe, for medicinal purposes, sufficiently accurate. Some three years since I found that some specimens I then examined were not amylic nitrite, but were contaminated wholly with nitrites of radicals much higher in the series than amylic alcohol.

IS LICORICE JUICE FERMENTABLE?

THERE exists in the root of licorice and some other plants a sugar-like substance, which comes in commerce as an extract, or inspissated juice. The active principle of this is a yellowish white powder with

* *Pharmaceutical Journal*, April, 1871, p. 865.

† *Pharmaceutical Journal*, November 25, 1871, p. 421.

a pleasant, bitter-sweet taste, and is called *glycyrrhizin.* Although it has been popularly supposed that this juice was not infrequently used by brewers, this supposition was met by scientific men with the assertion that this substance was not capable of undergoing fermentation, and hence could be of no use to the brewer. Dr. Griessmayer has instituted some experiments, and his results seem to contradict the latter assertion. On dissolving glycyrrhizin in cold water, in which it is not very soluble, a yellow solution is obtained, which has a brown color by reflected light, and possesses a peculiar odor, like that of smoking tobacco. On heating the solution, a fine yellow foam rises, which soon subsides on boiling. The vapors given off have a pleasant aromatic odor.

Glycyrrhizin is a glucoside, a body which, on warming with a dilute acid, splits up into glycyrretin and sugar. If, then, any free acid, like phosphoric or succinic, were present in the root, it would serve to produce this change during the mashing, or on boiling the hops. But even boiling alone seems to effect this change; for after a solution has been boiled for some time, without anything being added, it is capable of reducing the alkaline copper solution. A cold saturation solution, of course, will not do this, not even on heating it with the tartrate of copper, and hence the error arose of supposing that glycyrrizin would not reduce the copper solution at the boiling point. The cause of this difference of behavior is evidently due to the alkalinity of the copper solution, which prevents the glucoside from splitting up.

In order to decide the question whether the sugar liberated by previous boiling was really capable of undergoing fermentation, 400 c.c. of a solution of licorice was first boiled, then cooled to the temperature of the room, 87° F., and 0.5 gram of yeast added. In about six hours the evolution of carbonic acid was observed, and in three days the fermentation was over. The presence of alcohol was proven both by distillation and by Liebig's test. Toward the end of the fermentation a very offensive odor was given off, and this, of course, went over to the distillate. The fermented liquor contained no bacteria or vibriones, but perfectly healthy *saccharomyces cerevisiæ.* It is natural to suppose that the vile taste and smell of certain beers arise from the addition of licorice.—*Jour. of Applied Chemistry.*

Mistura Assafœtidæ and Mistura Ammoniaci.—The preparation of these two mixtures in accordance with our Pharmacopœia is not calculated to inspire, in case of the former, the most agreeable impressions imaginable upon the olfactories of the pharmacist; nor in the latter, if an impatient customer is waiting for it.

From the instability of the aqueous mixtures of these gum resins,

we are precluded the possibility of keeping them always ready for dispensing.

To overcome this disadvantage I have devised the following convenient, and, I presume, altogether unobjectionable mode, which will at once commend itself at least to those whose remembrance of odorous mortar and wearied elbow does not contribute to the charms of the profession. The improvement consists in forming a solution, or at least suspending the gum resins in a certain proportion of pure glycerin, which mixtures are to be kept for adaptation to their purposes, as follows:

℞.—Assafœtidæ electæ..... ℥ ii.
Glycerinæ puræ..... ℥ vi.

Cut the assafœtidæ into small pieces, and, together with the glycerin, introduce into a capsule, and subject to a moderate heat, constantly stirring and triturating with a pestle. In a short time the solution will be effected, and the result will be a liquid, not too thick for easy manipulation, each troy drachm of which will represent fifteen grains of the gum resin. Transfer to a wide mouth bottle, and label according to contents.

Now, if we receive a demand for, say four ounces of mistura assafœtidæ, we need simply ascertain the weight of the bottle, and add therein exactly four drachms (troy) of the above glycerole of assafœtidæ, and afterwards water sufficient to make the measure, and, with a shake or two, the thing is done, the result being a handsome preparation, much less susceptible of change than the officinal mistura, by the presence of the glycerin, which is certainly unobjectionable, and may possibly be advantageous therapeutically.

The only extra precaution necessary in preparing the glycerole is to guard against employing too great a degree of heat, so that the volatile oil may not be dissipated.

Mistura ammoniaci is prepared in precisely a similar manner as the foregoing, the proportions being the same, and the result being equal, if not superior, to that made by the officinal formula. It certainly, in point of convenience and facility, possesses a decided advantage.—J. W. Wood in the *American Jour. of Pharm.*

Emulsions.—Dr. Ernest Saunders, of Detroit, in the *Peninsular Journal of Medicine*, says: "A few hints on the above subject may not be unacceptable to some unfortunate who has not had the privilege of being taught this important branch of our art thoroughly. The first thing to do is to see that the mucilage is fresh and sweet; for although good emulsions can be made with sour mucilage, they re-

quire more labor, and spoil more quickly. A broad, flat pestle will be found to serve better than a narrow, round-faced one. Be sure that the mortar is clean and free from grease. Then put in the mortar, first, a small quantity of the mucilage, and rub it round the mortar, so as to prevent any of the oil from adhering to the side. Add a little of the oil—about half the quantity of oil that you have used mucilage—and rub from the centre; the emulsion will begin to form immediately. When the first quantities are thoroughly emulsified, add first more mucilage, and again half the quantity of oil, and make into a perfect emulsion. Continue in this way until all the oil is emulsified, adding water between each addition of oil after the right quantity of mucilage has been added. Great care must be taken to keep the mucilage and water in excess of the oil used, or a thick mass will be formed, which it will be impossible to mix with water. The object in making an emulsion is to have the particles of oil separated by water; but if the oil is in excess, the opposite is liable to take place—the particles of water are separated by the oil, and it is then impossible to form a good mixture, and the shortest way to do will be to throw out the mass and start again with fresh materials. Some people are in the habit of mixing the oil with powdered gum arabic, but it is impossible in that way to obtain a permanent emulsion, or even one in which the oil is sufficiently divided as to render the globules of oil invisible to the naked eye. A still worse mode is to put the oil and mucilage together in a bottle and shake them. A perfect emulsion should be as white as milk, if made with olive oil, or any light yellow or colorless oil; should mix readily with water in any proportion, without showing any signs of separating on standing, and should leave the mortar, or any vessel it may be put in, in such a condition that simple rinsing with cold water will clean the vessel, without leaving any traces of oil having been in it. The amount of mucilage to be used to a given quantity of oil varies. Half an ounce of mucilage is sufficient for two ounces of castor oil, or balsam of copaiba. Oil of turpentine, and the other light volatile oils, require rather more mucilage and longer trituration. If any syrup or sugar be ordered, it should be added after diluting the emulsion with all the water allowable. The same precaution should be taken with tinctures, or any alcoholic preparations. The fact that mucilage of acacia is precipitated by alcohol should always be borne in mind. It is difficult to give an unvarying rule as to the amount of tinctures admissible in one emulsion, as the amount of gum and oil varies so much; but, as a rule, it is unsafe to put more than one ounce of a tincture made with diluted alcohol in a four ounce emulsion, and tinctures made with stronger alcohol in proportion. Emulsions, if well made, are very handsome mixtures and

very permanent. The writer has some emulsions of castor oil made four weeks ago, and of balsam copaiba made three weeks ago, both of which are as fresh and nice as the day they were made, and neither of which show the least sign of separation.

Nux Vomica.—Persons familiar with the preparation of extract of nux vomica will have noted the oil which separates from the extract during the process of evaporation. Heretofore, it has not been satisfactorily determined whether this oil contained any alkaloid; but, in any case, it is customary when inspissating the extract, to remove the oily stratum, although neither the British nor United States Pharmacopœias authorize such proceeding. In case of any alkaloid being present, Prof. Proctor recommended that the oil should be agitated with a little dilute spirit and that the washings thus obtained should be added to the extract. This suggestion was well founded, as appears from the investigations of Mr. C. Bullock (*Am. Jour. Pharm.*), who obtained from four ounces of oil, 10.6 grains of alkaloids. Of this some portion was strychnia, but the major part consisted of brucia. A quantity of alumina was also found to be present.—*Canadian Jour. of Pharm.*

Solubility of Plumbic Chloride in Glycerin.—From experiments made by Mr. C. H. Piesse (*Jour. Chemical Society*), it appears that 100 parts of pure glycerin are capable of dissolving 1.995 parts of plumbic chloride; 100 parts of mixtures of glycerin and water containing 50, 25, and 12.5 per cent. of glycerin will dissolve respectively, 1.32, 1.036 and 0.91 parts of plumbic chloride.

Chloral as a Preservative for Hypodermic Injections.—Dr. W. Macpherson writes to the *Medical Times* that for some three months he has been making use of chloral in solution as a medium for hypodermic injection of alkaloids that were liable to undergo changes. He says: "My formula is—take of hydrate of chloral, two grains; diluted acetic acid, two drops; distilled water, four drachms (fluid).

"In this menstruum any *alkaloid* usually employed (or any other of the materia medica which may be liable to decomposition) may be dissolved or suspended in the proportion customary with each practitioner.

"I have experimented with the alkaloids morphia, atropia, and strychnia, also bromide of potassium, and in varying proportions. The solutions have kept free from *visible* alteration for several weeks, and their effect after this time was as certain as when recently compounded. A slight musk-like odor is developed in a few days, but the clearness of the solution is in no wise impaired."

Preservation of Vegetable Infusions by Chloroform.—Mr. J. B. Barnes has recently communicated some interesting experiments made in his laboratory upon the perservative effects of chloroform. He finds that infusions of calumba, chiretta, malt, and senna will keep good for a reasonable time by adding five minims of chloroform to every eight fluid ounces; and three minims will suffice to preserve the same quantity of infusion of roses. It will be easy to add chloroform to concentrated infusions, so that when diluted, each sixteen ounces may contain ten minims of chloroform. He also tried the effects upon two samples of mucilage of acacia, in the proportion of one and two minims, respectively, to the fluid ounce; after six weeks both appeared to be as fresh as the day they were made.

The same effect was found to follow a similar treatment of mucilage of tragacanth.

Not only is alcoholic fermentation prevented by this means, but when chloroform is added in sufficient quantity to fresh milk, lactic fermentation is also prevented, twenty minims of chloroform being sufficient to preserve eight fluid ounces of milk although exposed for five days in a warm place.

Milk, when preserved in this way, needs to be boiled before using in order to drive off the chloroform.

Succus Belladonnæ and Succus Hyoscyami.—These preparations have recently been introduced into the British Pharmacopœia. In a recent paper by Mr. Umney, read before the Pharmaceutical Association, the following remarks were made relative to their proportionate strength, compared with the fresh juices and the extracts:—

"Succus Belladonnæ belongs to a class of preparations which have for years been in some demand. They are really valuable, and as a rule much more to be relied upon than solid extracts. Of course a hard and fast rule cannot be laid down as to the relative equivalent value of this or other juices as compared with the original plant or with the extract, but the following, I think, will nearly express the average ratios:—

Belladonna herb, fresh	100 parts.
Expressed juice	60 "
Solid extract	4·7 "

"Succus Hyoscyami.—The same remarks apply as to the preceding juice, but perhaps here to a stronger degree upon the greater objection to evaporation, for I am of opinion that expressed juice of henbane suffers considerably in evaporation for the production of the solid extract.

"The relative equivalent values of herb, juice, and extract will probably be as under:—

Henbane herb, fresh	100 parts.
Expressed juice	70 "
Solid extract	4·4 "

"These expressed juices seem to have a specific gravity of about ·990 to ·997."

Old and New Reagents for Common Phenol. — Egidio Polacci, points out the distinctions between the blue color produced by phenol and hydrochloric acid with a chip of fir-wood and that given by hydrochloric acid alone. The violet coloration given by perchloride of iron is indecisive as being common to all the phenols. The blue coloration given by the successive action of ammonia and a hypochlorite is less general. As this method turns on the conversion of the phenol into anilin by the action of ammonia, the test is only available where the absence of anilin is satisfactorily demonstrated. Cresylic acid and thymol yield similar results. In complex organic fluids the reaction may fail. The conversion of phenol into picric acid by the action of nitric acid cannot be used for the detection of the first-mentioned body, since the same result is obtained with a great variety of bodies. The author pours into a narrow test-tube concentrated sulphuric acid to the height of four or five centimetres, and adds cautiously the aqueous solution containing the phenol in such a manner that the two liquids may not mix. A formation of three colors is soon perceived at the line of contract of the two liquids These three are soon reduced to one, a vermilion red, which, setting out from the plane of division diffuses itself through the entire mass of the phenol solution. This color is stable, and remains unaltered for months. If the red liquid is removed from the acid and treated with an alkali, it becomes yellow without losing its transparency ; this reaction serves to detect one part of phenol in about 2,000 of water. Another method is as follows :—In a well-glazed porcelain crucible is put a little of the most concentrated sulphuric acid, to which is added a relatively minute portion of bichromate of potash. The mixture is well stirred so that the liberated chromic acid may be uniformly distributed through the sulphuric acid. A small drop of the liquid under examination is placed upon the acid mixture, which immediately gives a brown coloration at the point of contact. If the proportion of phenol is larger than one part in 30,000, the coloration is accompanied with a chocolate-brown precipitate. The author has also examined Landolt's test which consists in adding to the suspected solution bromine water in

slight excess. If phenol is present, a yellowish-white precipitate is produced. The sensibility of this reaction extends to one part in 45,500. As Landolt has remarked, precipitates, more or less similar, are produced by oxybenzoic acid, the homologues of phenic acid, anilin, toluidin, quinia, quinidin, cinchonia, strychnia, narcotina and morphia. The author considers that the yellowish-white precipitate may be recognized as tribromo-phenol by the following reactions:—It has a special odor, slightly recalling that of the hydride of salicyle. It is insoluble in acids, but soluble in alkalies, ether, and absolute alcohol. A very small quantity of water completely separates tribromo-phenol from its alcoholic solution. If carefully heated on platinum foil it may be volatilized unchanged without leaving a residue. But if the heat is strong the compound is decomposed and burns with a smoky flame, evolving much bromine, and leaving a carbonaceous residue. A portion placed in a porcelain capsule, and treated with sulphuric acid and bichromate of potash, produces a chocolate-brown color, with the escape of bromine vapors. If the bichromate is dissolved in water, and the experiment conducted in a glass tube, with the application of heat, the liquid takes a fine green color. If gently heated with nitre and concentrated sulphuric acid, it forms oily drops of a fine red color, which burn, leaving a bulky carbonaceous residue.—*Gaz. Chim. Ital. and Canadian Jour. of Pharm.*

Improved Formula for Charta Sinapis.—The formula given in the English "Additions to the Pharmacopœia" for the preparation of mustard paper is unsatisfactory and expensive. The proportion of solution of gutta-percha necessary to render the ounce of mustard ordered sufficiently fluid for coating is ten drachms. This would contain more than a drachm of gutta-percha, which, when it is applied to the paper and the chloroform has evaporated, gives the surface of the mustard a glossy, varnished appearance. In fact, the gutta-percha acts as a varnish, much retarding the absorption of moisture and the development of the essential oil upon which the activity of the paper depends. Another objection to gutta-percha is its insufficient adhesive power, for the coating cracks and peels from the paper after but slight handling.

With the object of remedying these objections, I made a trial of solution of india-rubber in benzol as a menstruum; for I judged from its physical properties much less of this than of gutta-percha would be required to keep the particles of mustard cohesive, and at the same time the action would be retarded only to a minimum degree. I found it well answered my intention. After several experiments to

determine the most suitable proportions, I have adopted the following:—

Take of

Caoutchouc	1 part
Benzol	49 parts.

Black mustard, in powder, a sufficiency.

Dissolve the caoutchouc in the benzol; then stir in the mustard till of a proper consistence for spreading on paper.

In this, as also in the British Pharmacopœia form, the presence of the fixed oil in the mustard gives the back of the paper a greasy appearance. Moreover, its removal, which might be effected either by pressure or by percolation with benzol, would be an advantage, not only as removing the cause of this greasiness, but it would render the mustard more active.

Papers spread with a mixture made according to the form I have here given have a dull, smooth surface, and the mustard adheres well together, although it contains only one-fourth as much india-rubber as the British Pharmacopœia formula does gutta-percha. The above preparation readily absorbs water and develops its activity. A piece applied to the arm gave evidence of its presence in less than two minutes, whilst a piece of the British Pharmacopœia preparation required seven minutes, its full effect being comparatively slight. An estimate of the cost of the two forms shows that a Charta Sinapis, prepared as suggested above, could be made for one-eighth the expense of the British Pharmacopœia preparation.—*Pharmaceutical Jour. and Trans. Canadian Jour. of Phar.*

On the Examination of Oil of Peppermint.—A valuable paper has been published by Prof. Flückiger, in "Pharm. Handelsblatt," April 1st. The author calls attention to the fact that the optical behavior is no reliable criterion for the purity of volatile oils, the rotatory power of their proximate constituents being influenced and often reversed by various agents. Even the color reactions are more or less dependent upon the relative proportions of these compounds; but some are so characteristic that they deserve attention. Thus oil of peppermint is colored beautifully green or blue by a very small quantity of nitric acid, and it acquires at the same time a fluorescence, appearing copper-red by reflected light.*

The influence of chloral upon oil of peppermint has been noticed by Jehn.† The author found that his samples of the oil were colored

* From the American Journal of Pharmacy. See American Journal of Pharmacy, 1871, p. 164.

† Ibid., 1873, p. 447.

but slightly brown or yellow by chloral hydrate, even after the application of heat; but anhydrous chloral alters the oil gradually at ordinary temperature. Of two samples which showed exactly the same behavior to nitric acid, one acquired, with one-fifth volume of anhydrous chloral, gradually a brown color, while the other turned green, the color being always purer and richer after a contact of some hours or days in the cold.

Concentrated sulphuric acid or bromine also show peculiar colorations; the reaction should be moderated by the addition of carbon bisulphide. Very remarkable differences are observed on agitating different samples of the oil with a saturated solution of bisulphite of sodium; one was colored green, then blue; the other rose-red, violet, etc.

The author suggests to those having authentic samples of oil of peppermint to endeavor to ascertain the cause of this different behavior.—*Canadian Jour. of Phar.*

The Manufacture of Isinglass, generally supposed to be confined to Russia and North America, or other countries where the sturgeon is found in abundance, is carried on to a considerable extent in India, principally from the air vessels of several species of acanthopterygian fishes, and particularly different kinds of perch. There is room for a great extension of the trade, as isinglass, the purest known form of animal jelly, has, in a measure, had its consumption checked by its high price, and substitutes are employed, such as gelatine, of which it is itself the purest form.—*Nature.*

The Preparation of Kermes.—In his researches on the preparation of kermes, and the action of alkaline carbonates and the alkaline earths on sulphide of antimony, M. Terræil has found that to produce kermes by the action of an alkaline carbonate on sulphide of antimony by the wet way it is absolutely necessary that the carbonate should be decomposed during the process into carbonic gas, and alkali, and that carbonate of sodium alone is thus decomposed. Potassium carbonate cannot, then, be used with antimony sulphide to prepare kermes in the wet way; indeed, so completely does the former resist decomposition that a very minute quantity of sodium salt present as impurity may be measured by the amount of kermes which is produced. By the dry process, carbonate of potassium gives more kermes than carbonate of sodium does. Carbonate of lime has no action on antimony sulphide in the wet way, neither have the hydrates of barium or strontium. Milk of lime, however, gives a liquor which deposits kermes on cooling, and ultimately the whole of

the antimony taken up is thrown down in this form by the absorption of carbonic gas.

Opium Testing.—The following method is given by C. Arnoldi in a German chemical journal: 500 grammes of dry opium are digested in 3 ounces distilled water for twenty-four hours; the liquid is poured through a weighed filter, and the insoluble part again similarly digested. The insoluble part is then collected on the filter, washed with water so long as the washings are colored, dried and weighed. Good opium should not leave more than 200 grammes of insoluble residue. The solution is concentrated to 5 ounces, filtered, shaken with bone-char, and again filtered; to the liquid a slight excess of ammonia is now added, whereby a precipitate of impure morphine is obtained; and this precipitate, after warming to expel excess of ammonia, is collected and weighed. Good opium yields 14.19 per cent. of impure morphine.

Test for Digitalis.—Bonner states that the best test for digitalis is Pettenkofer's reaction with the biliary acid. The smallest trace of digitalis dissolved in water may be detected by the addition, in the first place, of a watery solution of dried bile, and then of sulphuric acid. On warming the fluid to about 160° F., it assumes a peculiar red tint. If the addition of the sulphuric acid be so made that it does not mix with the solution, a red zone appears, which gradually spreads through the whole mass.—*Pharm. Zeitung*, 1873.

Two new Processes for the Preparation of Sulphovinate of Sodium.—The first of these processes is based on the solubility of the sulphovinate and insolubility of the sulphate of sodium in alcohol.

M. Dubois, first prepares sulphovinic acid by heating together in a proportionately large flask equal volumes of alcohol and sulphuric acid; the product is a mixture of the latter acid, with the sulphovinic. He then adds little by little a concentrated solution of caustic soda in alcohol to the mixture. Whilst this is being done the temperature must be kept down by the freezing mixture, otherwise some of the sulphovinic acid would split up in ether and sulphuric acid. The sulphate of sodium which is produced separates from solution, and is removed by filtration. The bulk of the alcohol is recovered from the filtrate by distillation, and the residue evaporated in a water-bath to the formation of a pellicle, and allowed to crystallize. The crystals are free from sodium sulphate, and very white.

In working the second process, M. Dubois dilutes the impure sul-

phovinic acid with alcohol of 96°. This done, he at once saturates with pure powdered carbonate of sodium. If too much sodium salt is added it does not matter; being insoluble in alcohol, it is filtered away along with the sulphate. The filtrate is then treated as in the first place.

This process is not only facile, but economical, and, since no barium is used, the product is not contaminated with this poisonous base.

Estimation of the Alkaloids.—M. Mayer makes use of the hydrargyro-iodide of potassium to determine the amount of all vegeto-alkalies, whether pure or contained in pharmaceutical preparations. This reagent, as is well known, is a solution of mercuric chloride in excess of potassium iodide. For volumetric analysis, 13.546 grammes of the former salt, and 49.8 grammes of the latter, dissolved in a litre of water, form a decinormal solution. Of this solution one cubic centimetre will precipitate

.026	gramme	of aconitine.	.020	gramme	of morphine.
.014	"	atropine.	.004	"	chonicine.
.021	"	narcotine.	.004	"	nicotine.
.016	"	strychnine.	.010	"	quinine.
.023	"	brucine.	.010	"	cinchonine.
.026	"	veratrine.	.010	"	quinidine.

The mercurial solution should be added to that containing the alkaloid. The precipitates are formed in either acid, neutral, or slightly alkaline solutions; and with the exception of alcohol and acetic acid the reaction is not hindered by the ordinary constituents of pharmaceutical preparations. This process will indicate $\frac{1}{10000}$th part of the alkaloid, especially if the solution be subjected to dialysis. It is of course applicable only to those cases where a single alkaloid is supposed to be present.—*Chemists' and Druggists' Circular.*

Mineral Acids in Vinegar.—This method of detecting the presence, and in some degrees estimating the quantity, of mineral acids in vinegar is founded on the insolubility of oxalate of calcium in dilute acetic acid and in vinegar, and the solubility of the same salt in diluted mineral acids.

As reagents are generally more sensitive when freshly prepared, the oxalate of calcium is formed at the moment when it is required to act by adding to the liquid to be determined quantities of oxalate of calcium in solution. The solutions of these salts are of such strength

that equal volumes exactly decompose each other, and produce only a fairly apparent turbidity in vinegar free from mineral acid. A series of trials lead to the choice ef aqueous solutions containing one-fifth of an equivalent of the salt in grammes in one litre, so that half a cubic centimetre of each when added to 50 cubic centimetres of vinegar free from mineral acid cause marked turbidity after agitations.

Solutions of the mineral acids used to sophisticate vinegar are then prepared—two grammes of the anhydride in 100 cubic centimetres.

The modus operandi is as follows :—Half a cubic centimetre of each of the saline solutions is added to 50 cubic centimetres of vinegar, which is thus rendered turbid. One of the mineral acid solutions is added from a burette until limpidity is restored—say six cubic centimetres are used. The experiment is repeated, but this time the acid is added first and in smaller quantity than before—say four cubic centimetres to forty-six cubic centimetres of vinegar. If, on stirring, the turbidity is at once removed, too much acid has been used, and the experiment must be repeated with a still smaller quantity. In this way the limit of sensibility for each of the acids is arrived at. Five centigrammes of anhydrous hydrochloric acid, ten of nitric anhydride, or seven of sulphuric, contained in fifty cubic centimetres of vinegar are sufficient to prevent turbidity when oxalate of calcium is added as above, and their presence in the vinegar is thus ascertained. If after agitation the turbidity is not removed, the vinegar contains less than the above quantities; if it is completely removed, at least these quantities are present, and there may be more. The solutions once made, the process is of easy application and may be made most useful.—M. Strohl in the *New York Drug Bulletin.*

Detection of Falsifications of Wax.—The presence of *resin* in wax may be detected by its odor, or by treating the wax in the cold with alcohol; the alcohol dissolves the resin, the wax being almost entirely or quite insoluble. The alcoholic solution evaporated to dryness gives the resin, which may be easily recognized.

On treating wax with oil of turpentine, *starch* and earthy substances are left as a residue, the wax only being dissolved.

Tallow is recognized by its taste and disagreeable odor. Wax containing tallow is less brittle and greasy to the touch; thrown upon live coals it produces thicker and darker smoke than pure wax.

To detect the presence of *stearine*, the wax is cut into small pieces, and boiled with lime-water; if the wax is pure, the lime-water remains clear; if however stearine is present the lime-water becomes opaque, and deposits a white powder which is insoluble stearate of calcium.

Some manufacturers add considerable water to wax by agitation

and fusion. This may be detected by the loss of weight of the wax when it is kept hot for some time upon the water-bath.—*Science pour Tous.*

Detecting Meat Fats mixed with Butter.—Professor John Horsley, F. C. S., publishes the following ready method of detecting the presence of other fats in butter: About 25 grains of butter are dissolved in 1 drachm methylated ether, sp. gr. 0.730, at the temperature of 65° F.; 30 drops of methylated alcohol, 63° O. P., are then added, when a precipitate indicates the presence of some meat-fat. Pure butter gives no precipitate when treated in this way, provided the temperature does not fall below 65°, at which temperature the butter begins to crystallize out. The quantity of such fats present cannot be determined by this method, as less then one-third of the whole amount is precipitated.

Adulterated Ipecacuanha.—Powdered ipecac has been found to be adulterated with almond meal. It may be readily detected by making a small quantity of the suspected powder into paste, with water, and letting it stand in a warm place for half an hour. If, at the expiration of this time, it retains the peculiar flavor due to ipecac, it is free from bitter almond meal, but if it has a distinct almond flavor, return it at once to the source from whence it came, as adulterated.—*Tenn. Phar. Gazette.*

Adulterated Cayenne Pepper.—The London *Lancet* gives the following result of an analysis of twenty-eight samples of cayenne pepper. Out of the above number only four were genuine. Out of twenty-four adulterated samples twenty-two contained mineral coloring matter. Red-lead, often in large and poisonous quantities, was present in thirteen samples. Venetian red, red ochre, brick-dust, or some other analogous ferruginous earths, were contained in seven samples. Cinnabar, vermilion, or sulphuret of mercury, was detected in one sample. Six samples consisted of ground rice, turmeric and cayenne, colored with red-lead or a red ferruginous earth. Six contained salt, frequently combined with rice and red ferruginous earth or red lead. One of the samples was adulterated with a quantity of the husk of white mustard-seed. Two contained rice only, colored with red lead or a ferruginous earth.

Detection of Turpentine in Liquid Storax.—Hagar recommends to fuse the storax in a test-tube placed in a water-bath, to add half its volume of absolute alcohol, and effect solution by agitation; this is then agitated with several times its volume of petroleum ben-

zine, and the operation repeated twice. The decanted benzine solutions are united and evaporated in a water-bath from a tarred vessel. The residue should weigh 45 to 55 per cent. of the storax; it should be colorless, with a blueish opalescence, and of an agreeable odor. If turpentine be present, the residue will be yellowish, of the odor of the turpentine, and larger in weight.—*Am. Jour. Phar.*

Falsification of Castor Oil.—A correspondent of the *Canadian Pharmaceutical Jour.* says that one of the medical men of Trenton, Canada, was called to see a patient who lives several miles in the country. He found her laboring under the effects of some strong purgative poison. He was informed that she had only taken a dessert-spoonful of castor oil, which had been purchased from a store near by. He examined the bottle; it had a whitish deposit on the side, where it appeared to have been lying some time. It was nothing else than lard oil with croton oil put in it.

It is put up in the same style of round bottles sold by wholesale grocers through the country. The editor, Mr. Shuttleworth, says: "The adulteration of castor oil with that of croton seeds has been practised before. Pereira speaks of such a mixture being sold as *concentrated castor oil*, and of very serious consequences having followed its use."

It is not a great while since a gentleman in this city suffered the most serious consequences from taking what was supposed to be capsules filled with castor oil, and which undoubtedly contained croton oil as the active ingredient.

A writer in *The Journal of Applied Science* (September 1) states that castor oil has so little effect on Chinese intestines that the Celestials use it habitually in cookery.

Adulterations.—The following examples of adulterations were reported at the last meeting of the British Pharmaceutical Association.

CRUDE DRUGS AND COMMERCIAL PRODUCTS.

Balsam of Fir.—Under the name "Oregon Balsam of Fir," an oleo-resin has, during the last year, appeared in commerce. Prof. Maisch could not trace this drug beyond New York. It is a thick, transparent, bright, brown liquid, of a turpentine and aromatic odor. On rubbing it between the fingers, different odors become apparent, and last of all, that of nutmegs. It is probably a solution of resin in oil of turpentine, flavored with the oil of *Eucalyptus globulus* and the essential oil of nutmegs.

Balsam of Peru.—Reference was also made to the Balsam of Peru as having been found adulterated with liquid storax.

Dandelion.—Attention was called to the fact that chicory had been foisted upon the market as Dandelion Root, and of that spurious article a so-called officinal Fluid Extract of Dandelion had been prepared and sold for the genuine extract.

Ginger.—Some so-called Jamaica ginger was found to be common or American ginger, whitewashed and dusted over with plaster of Paris.

Linseed Oil.—As used for manufacturing printers' ink, has been found adulterated with cod-liver oil, previously made almost odorless.

Olive Oil.—Much of the Italian olive oil used for table purposes was said to be only fish oil made at home.

Rhubarb.—Reference was also made to Rhubarb, of the common variety, being rubbed with turmeric to give it the fine light yellow color of the Turkey species.

CHEMICAL AND PHARMACEUTICAL PREPARATIONS.

Acids.—In regard to the three mineral acids—nitric, muriatic and sulphuric—the latter is the only one found generally pure. The impurities of the commercial acetic, citric, tartaric and other acids were dwelt upon and clearly illustrated.

Citrate of Magnesium.—The substitution, or at least admixture, of tartrate of soda is as common as ever. The necessity of accurate knowledge upon this and other matters, as insisted upon in England, was shown in an incident in the case of a druggist in Bermondsey, England, who, having a call for some granular citrate of magnesium, bought two pounds from a neighbor, and sold one-fourth of a pound over the counter immediately. On analysis, this was found to contain citric and tartaric acids, carbonate of sodium and sugar. His defence, that he sold it as he had bought it, and had had no time to analyze it, was of no avail, and he was accordingly fined ten pounds and costs.

Cream of Tartar.—The usual impurities are still reported; among others, carbonate of magnesium, salt and starch.

MISCELLANEOUS SUBSTANCES.

The British papers and journals are full of reports and trials under the "Adulteration of Food Act," for selling adulterated articles of consumption, such as tea, coffee, mustard, butter, flour, pepper, cocoa, jams, bread, etc., etc.

Butter.—This was found to be adulterated with lard, drippings, tallow, palm oil, and oils or fat from certain seeds.

Flour.—The great staple was found sometimes to contain alum, as much as ten grains in four pounds.

Extract of Meat.—Mr. Thomas Williams found fifty grains of red lead in a can of South American extract; said can having been painted red to give it a more showy and saleable appearance.

Port Wine.—To detect spurious port wine, add to a portion of it in a test-tube an equal volume of amylic alcohol, and shake. The upper layer will assume a more or less characteristic pink or purple color. Genuine port wine yields no color to fusel oil. The poisonous matters used to color wine may produce fatal effects.

TOXICOLOGY.

THE ACTION OF STRYCHNINE.

F. A. Flack, in Volkmann's *Sammlung Klinischer Vorträge*, says that strychnia is absorbed and acts most quickly when injected into the blood, more slowly from the subcutaneous cellular tissue, rectum, and conjunctiva, and more slowly still from the stomach. Absorption will occur through the lymphatics, even when all the vessels of the part to which it is applied have been carefully ligated. It is often supposed to be absorbed from the bladder, but, according to the author's experiments, this is not the case. Many cases of strychnia posioning are either suicidal or homicidal, but not a few are accidental. Most of them are due to apothecaries either dispensing larger doses than have been prescribed, or substituting strychnia for other medicines. Some are due to patients taking too much of a prescribed medicine; but others are owing to the fault of the physician, who has either prescribed too large doses, or overlooked the cumulative action of the remedy, or prescribed badly. In one interesting case of the last sort, the physician ordered nitrate of strychnia in solution with too small a quantity of solvent. The strychnia, consequently, formed a sediment at the bottom of the vessel, and, on being swallowed, caused the patient's death. In another case, a most instructive one, nitrate of strychnia was prescribed with iodide of iron in solution. The iodine combined with the strychnia and the sparingly soluble iodide of strychnia formed a sediment, which, when swallowed, caused death. A curious case of poisoning occurred in the person of a doctor in Berlin, who had received a quantity of arrow-poison from Java. He wished to ascertain its physiological action, and, instead of experimenting on animals first, he swallowed three grains of it himself. For a wonder he recovered, the substance containing no less than 60 per cent. of strychnia. The symptoms of strychnia-poisoning in man are, first quickened respiration, and afterwards convulsions of a tetanic character. Sometimes there are general convulsions, but no tetanus. The shortest time in which tetanus has occurred is five, and death in ten. The longest time is tetanus in two-and-a-half hours, and death in six. Where recovery takes place,

the convulsions may last twelve hours. The symptoms are similar in mammals, birds and batrachia. In snakes and white fish there is disturbed respiration, with quivering. In regard to the action of strychnia on single organs, it has been found that it does not paralyze the inhibitory centres of Setschenow; it stimulates the vasomotor centre, causing contraction of the arteries and increasing the blood-pressure; it renders the olfactory and optic nerves more sensitive, increasing the sense of smell, and the sharpness of vision, as well as enlarging the field of vision for blue and red. In poisonous doses, it produces hyperæsthesia of the retina in dogs. The pupil is dilated to its maximum during the tetanic convulsions, and is normal in the intervals. Strychnia has little action on the heart. It lessens the power of the blood to absorb oxygen. It slightly raises the temperature of the body. It causes contraction of the spleen, and acts upon that organ through the splanchnics. It is said to increase the secretion of urine. When given to a pregnant animal, it exerts but little action on the fœtus in utero. According to the author, the common idea that strychnia acts primarily on the spinal cord is erroneous. On the contrary, it acts primarily upon the brain, its action being exerted on the vasomotor centre; on the inhibitory centre for the heart; on the respiratory centre so powerfully, that the irritation is propagated from this to the whole system of voluntary muscles; and lastly, on the reflex apparatus of the spinal cord. These actions excite secondary reflex stimuli, starting from the spinal cord and associating themselves with the cerebral ones. After this has lasted some time, the blood becomes poor in oxygen, and this deficiency of itself acts somewhat like strychnia, and the poisoned animals die of asphyxia. The largest fatal dose of strychnia is four milligrammes of the nitrate in a child, and between fifteen and thirty of the sulphate in an adult. In mammals 0.6 milligrammes of nitrate of strychnia per kilogramme of body-weight is a fatal dose; for birds 2.0 milligrammes, for frogs 2.1 milligrammes, and for white fish about ten milligrammes. Frogs, therefore, require a larger dose than mammals instead, of being much more susceptible to its action as is generally supposed. All salts of strychnia have almost exactly the same action. After reviewing all the remedies hitherto proposed for poisoning by strychnia, the author concludes that the treatment, if convulsions have not set in, is to empty the stomach by emetics or stomach-pump, to wash it out with decoction of galls, and combat the convulsions by chloroform. If convulsions have already begun, chloroform must be given at once and the intestinal canal emptied afterwards. When the poison has been absorbed from a wound, it should be washed, excised, or cauterised. Death from strychnia cannot be diagnosticated with certainty from *post-*

mortem appearances. The best method of detecting its presence in the stomach or elsewhere is that of Dragendorff. Strychnia is not destroyed by putrefaction of the tissues. Its chief medicinal uses are in paralyses, motor or sensory. It is also employed in chorea, epilepsy, and writer's cramp, dyspepsia and constipation. The best form is pills, or, still better, subcutaneous injection. The dose for use in the latter should not exceed eight milligrammes.

Blood-Letting in Poisoning by Strychnia.—Dr. Briggs calls attention to this subject. He says that a common practice with drovers of Southern California, in the treatment of dogs poisoned by strychnia, is to cut off the ears, and if this fails to cure the spasms to treat the tail in like manner. He says that not one in twenty die after this operation. He says that he has seen dogs apparently in their last movements, perfectly rigid in opisthotonic spasms, tongue almost black, the moment the caudal appendage was chopped off there would be a relaxation, the blood first coming thick and tarry, then flowing more freely and red, as the spasmodic action was lessened. Further, a patient accidentally poisoned by strychnia, while in spasms, wounded himself so as to lose much blood; no spasms returned.—*Pacific Med. and Surg. Jour.*

No Antagonism between Strychnia and Morphia.—The opinion that the life of animals poisoned by strychnia may be saved by morphia, was not supported by recent experiments made with animals. Dr. Froehlick, under the guidance of Prof. Rossbach, undertook to examine the behavior of rabbits placed under the influence of the alkaloids. He fixed the smallest lethal doses of strychnia and morphia, administered then first either the strychnia, and after some time the morphia, or *vice versa*. The animals were attacked by tetanic cramps and died. When a mediate or deep morphia narcosis was obtained, the action of strychnia was more striking.—*Schmidt's Jahrb.*, July, 1874.

POISONING BY ODONTOCROLL.

The Medical Times has a letter from a correspondent in Connecti cut giving the symptoms in a case of poisoning by this substance, which are very strange, and, as yet, unexplained. The writer says:—"I was hastily summoned, on Monday evening, the 19th ult., to administer electricity to a man, supposed by the messenger to be dying, who had been carried to a physician's house. The patient, Mr. W., is a chemist, and during the practice of his profession, has discovered a

combination of hydro-carbons which had been found by himself and a dentist of eminence to be a very successful remedy for odontalgia. The compound, called "odontocroll," or "carvocroll," is a heavy, oily liquid, of smoky odor and taste, and has been introduced in the dental market as a local anæsthetic for toothache. Mr. W., the dentist, and a friend met in the chemist's laboratory, in this city, and further tested the drug by placing a few drops upon smoking tobacco and inhaling the vapor. Mr. W. placed ten drops in his pipe, and, having smoked in the usual manner for a few minutes, poured ten more drops in it. After puffing a few times, he suddenly dropped, insensible, upon the floor, but in a few seconds revived entirely, and insisted upon resuming his smoke. To this his friends objected, and during the discussion following the refusal, he again became insensible. They then removed him about two blocks, to Dr. D.'s office, and on the way thither he fell to the sidewalk, "collapsed," two or three times. This happened at nine P.M. I reached him at ten, and while I was listening to his story he fell upon the floor again, unconscious. This had happened several times since he had reached the office. Upon examining him during his fall, I found the countenance somewhat dusky, the pulse normal in force and frequency, all the voluntary muscles relaxed except the abdominal, and the pupils responding quickly to light. I endeavored to arouse the breathing, which was completely suspended, by placing one pole of the battery over the right phrenic nerve, and the other over the stomach, using the current from one cell, interrupted and secondary. This I repeated during two successive attacks; but the electricity did not seem to quicken the return to consciousness or respiration. The only appreciable effect was to make him complain of great weakness as soon as he could speak, and, fearing the too prolonged influence of the battery, I suspended its use. The suggestion was made that another physician should be summoned, and an old experienced practitioner was called in at eleven. He advised the administration of brandy, of which about half an ounce was given. The attacks gradually became less frequent, and, after some time, gave premonitions of their approach by grimaces and bodily contortions, which were invariably followed by the insensibility. At half-past twelve we called to our aid two policemen, and removed him to his home, about three blocks distant. He struggled hard all the way, evidently from the effect of the brandy, but as soon as he was placed in bed became quiet, and had no more attacks during the night. In the morning he reported himself as feeling as well as usual, though somewhat weak and sore from his falls and struggles on his way home.

The unconscious state lasted usually from twenty to thirty seconds,

came on suddenly, and passed off as quickly as it came on. During this time respiration was entirely suspended, and all sensibility lost. The conjunctiva and dorsum of the tongue were repeatedly touched without producing any reflex muscular action, and his appearance was that of a person in a state of complete anæsthesia. While conscious, he acted as usual in perfect health, nor was he himself aware, by any premonitions, of an impending seizure. Nothing was given him but some aromatic spirits of ammonia and the brandy mentioned.

Tobacco Poisoning.—Professor Chevallier reports in the *Journal de Chemie Médicale* the case of a young man who had laid a wager that he would smoke twelve cigars. He felt decidedly uncomfortable at the end of the eighth, and when he had finished the ninth he was attacked by giddiness and shiverings. These symptoms became worse after the tenth cigar. He refused to leave off smoking, but went home in charge of some friends. He was then attacked by severe pain in the bowels and vomiting. A medical man was called in, who could not, however, stop the progress of the attack, and the patient died in the night. It must, however, be taken into account that the victim was suffering from hypertrophy of the heart.

Acerates Decumbens as an Antidote to Rattlesnake Poisoning.—William J. Wilson, Asst. Surg. U.S.A., writing from Fort Bayard, New Mexico, on the 24th of November, says: Mr. John R. Magruder (son of the late Dr. Hezekiah Magruder, Washington, D. C.), now residing about twenty miles from this post, engaged in mining and smelting copper, informed me about three months since that one of his Mexican laborers had been bitten in the calf of the leg by a rattlesnake. Another Mexican went out, looked about for a few minutes, found a plant, chewed up some of its leaves, and applied the bolus to the wound, when the swelling (which had become considerable) disappeared in a short time, and the man recovered.

I requested Mr. Magruder to procure for me a specimen of this same plant, which I forwarded to Assistant-Surgeon J. J. Woodward, U.S.A., Surgeon-General's office, Washington, and he sent it on to Professor Asa Gray, of Cambridge, who identified it as the "Acerates decumbens," or the "Anantherix decumbens" of Nuttal, a plant belonging to the milk-weed family.

My *experience* of its virtues is *nil*, as I have not been fortunate enough to see a case of rattlesnake bite for a long time; but Mr. Magruder is a gentleman whom I have known intimately for the past two and a half years, and his statement is in every way reliable. I present it through your columns to the profession for what it is worth,

and because I know from repeated inquiries I have made that the Mexicans depend upon it as an unfailing remedy. I would be very glad to have it tried in such cases, and the results published in some medical journal, for the benefit of myself and other members of the profession.

Case of Fatal Poisoning by an Overdose of Gelseminum Sempervirens.—August 20, 1874, Frank R., æt. 24, took for neuralgia, at 1 o'clock A.M., a teaspoonful of Tilden's fluid extract of gelseminum, and in about fifteen minutes repeated the dose. The pain was soon relieved and his eyes felt heavy, but in about half an hour he began to complain of choking, and soon arose struggling for breath, pushing his fingers into his throat as if trying to tear it open. He staggered, reeling from one room to another as though intoxicated, and in a short time after these symptoms came on he threw himself upon the floor and became unconscious. This is the history of the case as I received it from his family.

I was summoned about 3.45 A.M., and reached the house at 4 A.M. Found patient moribund, respiration gasping, three or four per minute, pulse rapid and feeble. He was totally unconscious, and could not be roused; pupils dilated, not responding to light, and could be touched without producing any contraction of the lids. Muscles relaxed, lower jaw drooping. Skin moist, extremities rather cold.

As the patient was so far gone, as the dose had been swallowed three hours before, and was probably all absorbed, and as there was such complete insensibility, I considered it useless to try emetics. I laid him upon his back with head upon floor, dashed cold water upon face and chest to excite respiration. Gave brandy-and-water in small quantities frequently, and five grains of carbonate of ammonia every five minutes. Mustard to spine, and friction upon extremities. The respirations became more infrequent, and the pulse grew slower and weaker. Artificial respiration was kept up for half an hour, but without avail, and he died at 4.45 A.M. No convulsions at any time.

Autopsy, five and a half hours after death.—Body well nourished, rigor mortis well marked. The blood was very fluid and dark-colored, and showed no tendency to coagulate or to turn red upon exposure to the air, even after standing in a large tub for two hours. Heart, lungs, spleen, kidneys, normal. Liver dark-colored, and contained much fluid blood. Stomach contained four ounces of light-colored fluid mixed with glairy mucus. Its internal surface was deeply congested, and marked by tortuous dilated vessels. Intestines normal. Brain rather pale. Sinuses not congested. The internal substance of the cerebral lobes was dotted here and there with small red points,

but these were not sufficiently large or numerous to be considered of much pathological importance. No collection of fluid in ventricles.—J. T. Boutelle, M.D., in *Boston Medical and Surgical Journal.*

Effect of Warmth in Preventing Death from Chloral.—The experiments with chloral on dogs—Dr. Brunton has found that an animal wrapped in cotton-wool may recover perfectly from a dose of chloral which is sufficient to kill it when exposed to the cooling action of the air, and that recovery from the narcotic action is much quicker when the temperature is maintained in this way, and still more rapid when the animal is placed in a moderately warm bath. The bearing of these experiments on the treatment of persons suffering from an overdose of chloral is obvious. The patient should be put to bed and the temperature of the body maintained by warm blankets, and hot-water bottles applied to various parts of the body, and especially to the cardiac region. Warmth to the heart is an excellent stimulant to the circulation, which, like the respiration, is enfeebled by chloral. If failure of respiration is threatened it should be maintained artificially so as to allow time for the chloral to be excreted.—*The Practitioner.*

Almost a Fatal Effect from Small Doses of Chloral.—W. L. Schenk, of Osage City, Kansas, writing September 18th ult., says:

"September 12, 1874, was called at 6 A.M. to see Mrs. Abba D——, a robust, well-developed woman of twenty-five years of age. Found her suffering quite severely with neuralgia of the left ovary. Prescribed—

℞ Chloral hydrate..... ʒ i.
Aromatic elixir..... ℥ i.

"M. S. D. A teaspoonful every hour until relieved.

"Was sent for in haste at 9 A.M. The patient had labored, stertorous and irregular respiration, occasionally ceasing long enough to create a fear that she might not breathe again. The pulse was feeble and frequent; the face and extremities purple; the pupils contracted, and insensible to light.

"I learned the third dose of the chloral had been taken before other effects than a slight diminution of pain were observed. Soon after, the untoward symptoms were observed, and I was recalled.

"By inhalations and injections of ammonia, warm baths and friction, the use of the galvanic battery, and occasionally artificial respiration, the congestion began to pass off in about three hours, and the patient gradually recovered from its effects."

Poisoning by Chloral.—In Berlin, a man who had attempted to commit suicide by taking a large dose of chloral (370 grains), was

cured by the injection of 1-25th of a grain of strychnia, which was repeated in a short time. When the first dose was taken, collapse had already set in.

Probable Lead-Poisoning from a Bullet Lodged in the Knee-Joint.—*The Boston Medical and Surgical Journal* says that, at a recent meeting of the Boston Society for Medical Improvement, Dr. Ellis reported the case of a man who had severe attacks of colicky pain in the abdomen, always preceded by obstinate constipation, and accompanied by vomiting. He subsequently had epileptic convulsions, became violently delirious, and died. About six weeks before his death a blue line was noticed on his gums.

It was known that twelve years previous the patient had been wounded in the knee; search was made, and a large conical leaden bullet was found imbedded in the inner condyle of the femur, its base being exactly level with the articular cartilage, its longest diameter parallel with the shaft of the bone between the two condyles. There was, therefore, a surface of lead exposed to attrition, in a synovial cavity, where there was a constant secretion and absorption of fluid, and it would seem that there might have been absorption of some soluble salt of the metal.

Local Poisoning by Lead.—Dr. A. Manouvriez, having inquired into the experience of thirty workmen who from the nature of their occupations were brought more or less into contact with lead, has come to the conclusion that possibly all the local symptoms of paralysis, change of sensibility, etc., are the result of the direct absorption of the poison through the skin. In those who were right-handed, it was always the right upper extremity that was affected; while in the left-handed the symptoms were, for the most part, confined to the left upper extremity. A worker in white-lead, whose feet were most frequently brought into play (in the process of stamping), was first affected in these parts. Two right-handed workmen happened to be seized with paralysis in the left arms and hands, but in their case it transpired that it was the left upper extremity which had come in contact with the lead.

In view of these observations, we are justified in asserting that by applying an artificial protection to the skin of lead-workers we may be able to afford an efficient prophylactic against lead-poisoning.—*Gaz. des Hôpitaux*, May 7, 1874.—*Boston Medical and Surgical Journal.*

Death of an Infant from the Application of an Acetate of Lead Lotion to the Nipples.—M. Bouchat mentions the case of a

lady who, having used a lotion called *Eau de Madame Delacour*, a favorite quack remedy in Paris for sore nipples, omitted to wash it off before putting the child to her breast. The child was shortly after seized with violent colic, and died in a few days with all the usual symptoms of lead-poisoning.—*Gazette des Hôpitaux.—Boston Med. and Surg. Journal.*

Injection of Morphia into a Vein.—R. W. Erwin details his own experience on an occasion when he accidentally introduced about one-third of a grain of morphia into a vein, while giving himself a hypodermic injection for the relief of pain caused by a poisoned wound. He was almost instantly seized with a sudden and terrible pressure in the back and basilar portions of his brain. This was of great intensity and created such a sensation of fulness that he felt as if he would immediately become unconscious; his face was flushed, eyes injected, lips cyanotic, and his skin stung as if pricked with innumerable needles. Applications of cold to the head and neck somewhat relieved these symptoms. Subsequently there were intense cerebellar headache, general hyperæsthesia of the surface, a severe rigor, and bilious vomiting. Four or five grains of quinine and an ounce of whiskey were taken, and about seven hours after the accident the injection was repeated, with the effect of arresting vomiting, relieving pain in the head, and securing sleep.—*St. Louis Medical and Surgical Journal*, October, 1874.

No Antagonism between Morphia and Atropia.—Dr. Froehlick experimented with these poisons on rabbits and frogs. He found that while rabbits die after thirty minutes from a deadly dose of atropia, they will die after seventeen minutes if the smallest deadly doses of atropia and morphia are given combined. Only the morphia cramps seemed to be pacified by the atropia. The doctor confirmed what Rossbach already stated, that the terminations of the vagus are by small doses of atropia not paralyzed, but stimulated, by which diastolic cessation of heart movement may be caused. Upon this stimulating state may follow a paralytic one. A pupil dilated by atropia will not be contracted by morphia; but a pupil contracted by morphia will always be dilated by atropia. Similar results, as above mentioned, were obtained by John Harley, who stated that mutual succor in the action of both alkaloids, given at the same time, may be noticed.—*Schmidt's Jour.*

Case of Poisoning by Atropia.—Dr. Newland reports a case of poisoning by atropia in which one and a quarter grains of the alkaloid were taken. Vomiting ensued in about an hour after the poison had

been swallowed. Morphia was given in the dose of one-fourth of a grain every twenty minutes; and ammon. carb. two grains every ten minutes. This treatment was continued for two hours. The patient ultimately recovered.—*St. Louis Med. and Surg. Jour.*

Poisoning with Burnet's Fluid.—Dr. H. M. Tuckwell reports the case of a female æt. 21, who took about four ounces of Burnett's fluid (solution of chloride of zinc) with suicidal intent. This was followed by burning epigastric pain and tenderness, retching and vomiting, and inflammation of the soft palate, uvula, tonsils and pharynx. The lips, mouth and tongue were unhurt. Life was prolonged for one hundred and sixteen days, during which time the vomiting continued; she had tetanic spasms in the right forearm and hand, and grew more and more emaciated until death. The bowels were moved only three times. As the termination approached, she became covered with innumerable petechiæ and vibices, giving the body a bluish mottled appearance. For fifty-seven days life was supported by injections; water only being taken by the mouth.

There were remarkable fatty changes in certain organs of the body and in the muscular tissue, co-existing with the extreme general emaciation of the body. These changes were of two kinds. In the liver, kidneys and pancreas there was a positive infiltration or accumulation of fat, not a substitution or degeneration; for after the fat had been removed from them in the process of mounting microscopical preparations, the natural structures were found to be perfect; the epithelial lining of the tubes of the kidneys more especially was as regular and well preserved as in the illustrations given in books. In the muscles, on the other hand, there was a true fatty substitution or degeneration. —*British Medical Journal*, September 5, 1874.

Antidote to Phenic Acid Poisoning.—As this acid poisons by its direct effect, Mr. Haussman has found that the use of alkaline earths constitutes the best antidote. He found those containing lime the best, and proposed the use of saccharate of lime as the best remedy, prepared by dissolving sixteen parts of sugar in forty of distilled water; add five parts of caustic lime, digest for three days with frequent agitation, then filter and dry. The product is saccharate of lime, which dissolves easily in water, with which it may be administered.—*Philad. Med. and Surg. Reporter.*

Poisoning by the Root of Phytolacca Decandra.—Three children, aged respectively nine, six and four years, were recently poisoned accidentally at Corinth, Miss., by eating poke root. They ate the root at 11.30 A. M., at 12 M. took a hearty dinner, and in an hour com-

menced purging and vomiting. At 4.30, when first seen by the physician, the purging had ceased, but vomiting continued at intervals of twenty or thirty minutes; the pupils were widely dilated; the pulse rapid and very feeble; inspiration short and sighing. When roused from their narcotism, they complained of intense epigastric pain, great thirst, and chilliness. The treatment consisted of hot baths, sinapisms, and frequent small doses of brandy. The patients all recovered, although vomiting continued through the night, and they complained of vertigo and epigastric tenderness a day or two longer.—*American Practitioner.*

Toxic Effects of Sumbul.—Mr. J. Morgan, in the *Medical Press and Circular*, relates the following interesting case of poisoning by an overdose of sumbul. The patient, a young man, took during the night half an ounce of the tincture. He felt confused during the next day, but it was not until afternoon that the full influence of the drug manifested itself. The symptoms resembled somewhat those produced by Indian hemp. There was a general feeling of tingling, no nausea, nor contraction of the pupils. There was a singular tendency to snore, although the patient was awake and quite conscious, and the patient complained that his legs felt as if they were not his own, so that he could not trust himself to walk. The peculiar odor of sumbul was perceptible in his breath, and more especially in the exhalations from the skin. He was treated with full doses of coffee and tea, and kept in motion by the attendants, and the effects gradually passed off by the next evening.

Osmic Acid as a Poison.—At a recent meeting of the Academy. H. St. Clair Deville, a distinguished French chemist, offered to the gentlemen present a tight vial containing about fifteen pounds of osmium, the most deadly poison known. In a short explanation, M. Deville said that twenty pounds of the metal would be sufficient to poison the entire population of the world. One-thousandth part of a grain of osmic acid, set free in a volume of air of one hundred cubic yards, would possess such a deadly influence that all the persons respiring this air would be nearly killed. Osmic acid is so much the more dangerous that no counter-poison is known against it.—*Amer. Gas. Light Jour.*

Corrosive Sublimate in Rhus Poisoning.—Dr. J. M. Scott reported a case of poisoning from the *rhus toxicodendron*, successfully treated by the local application of an aqueous solution of hydr. bichlor. to the face, arms, hands, etc.—Dr. Eberle's favorite treatment. Patient had not been exposed to the poison vine, but had received a

ful flowers. He had never heard of a similar case, hence he reported this. What particular flower caused the eruption?

Dr. Kennard thought the symptoms described by Dr. Scott somewhat resembled urticaria, and that the woman probably suffered from an obstinate attack of urticaria. After a patient has been once poisoned by the poison oak, the disease is apt to recur every spring or summer for several years. Such persons are exceedingly susceptible to the poison; if they pass near the vine the disease reappears, the eruption breaks out and they swell up. He related a case of poisoning by the *rhus toxicodendron* which closely resembled a slight case of psoriasis. It usually lasts six or seven weeks unless treated.—*Missouri Clin. Record.*

Chloroform-Tippling.—Dr. W. W. Parker related, at the last meeting of the Virginia State Medical Society, the case of a man named Johnson, a blacksmith, who became addicted to chloroform-tippling. How much in quantity he swallowed is not stated, but he bought and drank three thousand dollars' worth in three years! His mind then became affected, and he imagined himself tricked. Meanwhile he fattened fifty pounds, and on ceasing the habit lived fifteen years in good health, and died from natural causes.

PECULIAR TOXIC ACTION EXERCISED BY THE COLCHICUM AUTUMNALE AT THE TIME OF FLOWERING.

M. I. Pierre, in a letter recently communicated to the French Academy, states that having plucked some fully expanded flowers of *colchicum autumnale*, in order to examine them more closely, he was surprised to notice that after a few seconds his fingers had changed color, and taken the livid, greenish-yellow tint characteristic of a corpse in a state of incipient decomposition. After about two seconds the skin regained its usual color. As the discoloration extended throughout the length of the fingers, and even beyond, the question arose whether or not it was caused by absorption by contact at the extremity of the fingers. M. Pierre therefore extended his hand over a large clump of flowers, having anthers two or three centimetres in length, and carefully avoided all contact. The same phenomenon was produced with the same rapidity, and disappeared as quickly when the hand was removed. The experiment was repeated several times, and by different persons, but always with the same result.

In order to investigate the matter more conveniently, M. Pierre had two large clumps of colchicum flowers placed in pots and removed to his laboratory; but on repeating the experiment twenty-four hours

afterwards, the effect was not so obvious. Upon comparing the flowers capable of producing the phenomenon with those which had appeared to have lost the power, it was noticed that the inactive flowers had commenced to fade, and that the pistils and filaments of the stamens were much paler than on the preceding day, or than those of less advanced flowers. He therefore thinks it presumable that it is principally during or approaching the act of fecundation that the colchicum flower possesses in the highest degree the property above described.

What, then, is the substance in the flower capable of producing this effect, which disappears so rapidly? The author thinks it can scarcely be a solid, or a pulverulent pollenic matter, or the color produced would be more persistent, but that it is probably an extremely volatile substance, which has not yet been studied. In this view he is supported by the fact that, after a number of experiments, without contact, and without raising his hand to his mouth, M. Pierre experienced a peculiar sensation in the organs of taste; whilst his assistant, using the same finger many times, experienced a numbness in it which was persistent during several hours.

The author proposes to investigate the nature of this singular substance, which probably plays an important part in the accidents attributed to fresh colchicum, compared with the innocuousness of the stale or dried flowers.

In connection with this subject, the author remarks that in Gâtinais, where saffron is cultivated on a large scale, some persons, especially women and children, cannot work at picking the flowers without suffering from the symptoms of a peculiar poisoning, which manifests itself externally in a swollen and bloated appearance.—*Canadian Pharm. Jour.*, from the *Comptes Rendus.*

Lead-Poisoning.—At the Academy of Sciences at Paris, MM. Bergeron and L'Hôte presented a curious case of poisoning by lead. The event took place on an estate in the Department of the Seine and Marne. Twenty-six persons were suddenly seized with symptoms, more or less serious, of lead-poisoning, and two of them succumbed. It was first supposed that there was an epidemic of typhoid fever; but, from the progress of the symptoms, the medical men of the place soon discovered that the symptoms were caused by toxic doses of lead. An inquiry showed that the lead pipes, through which the water used by these people passed, had been in use for twenty years without any change whatever. The true cause was at last discovered to be in the brine with which the butter consumed by the people who belonged to the estate was preserved. On testing the brine it was found to contain

sea-salt, almost to saturation, sugar, saltpetre, acetate of soda, and chloride of lead. This latter salt, the result of the action of lead on the chloride of sodium, constitutes, according to M. Mialhe, the most poisonous of lead preparations. At the necropsy a very notable proportion of lead was found in the intestines, in the liver, and, what was very remarkable, in the brain; the salts of this metal having been supposed by many authors to never be found in this locality in cases of lead-poisoning.—*Br. Med. Journal.*

Hitzig has observed several cases of saturnine intoxication in workers in horse-hair. The hair is frequently dyed black by litharge, and particles of lead remain adherent to it.

Poisoning with Paraffine Oil.—Dr. G. R. Gilruth reports a case in which a middle-aged, delicate woman, feeling herself becoming suddenly faint, seized an ordinary quart bottle, thinking it contained porter, and drank the whole of its contents, namely, a pint of paraffine oil. Her mistake being at once discovered, an emetic was given, causing copious vomiting. When seen, shortly after, by Dr. Gilruth, she complained of a burning sensation in the region of the throat and stomach; the surface of the body was cold, but the pulse was good, and the fauces, with the exception of being slightly reddened, had a natural appearance.

The treatment consisted in giving about three drachms of the bicarbonate of soda dissolved in a small basinful of warm water; ordering a hot poultice to be applied over the abdomen; and, later, two drachms of wine of ipecac, but without causing more vomiting. The natural warmth speedily returned to the body, the unpleasant symptoms disappeared, and in the course of a few days the woman was moving about in her ordinary state of health.—*Edinburgh Medical Journal*, Nov., 1874.

PRESCRIPTIONS AND FORMULÆ.

External Treatment of Urticaria.

The following applications are used by Dr. Hardy at the Hôpital Saint-Louis, in connection with appropriate internal remedies:

LOTION OF CHLOROFORM.

℞ Chloroformi..... ʒ ijss.
Alcohol..... ℥ ijss.
M.

LOTION OF CORROSIVE SUBLIMATE.

℞ Hydrarg. bichlor..gr. iss. ad iij.
Aq. destillat..... ℥ iij. ʒ v.
Camphoræ..... q. s.
M.

Sometimes starch-powder alone or in the following combination:

℞ Amyli..... ʒ x.
Zinci oxid..... ʒ ss.
Camphoræ..... ʒ ss.
M.

Apply morning and evening. Vichy water, alkalies, etc., may be serviceable at the same time to correct acidity of the stomach.

Treatment of Pruritus Vulvæ.

Lotions containing alum may be used according to the following formula:

℞ Aluminus..... ʒ i.
Decoct. hordei..... Oiv.
M.

Apply three or four times a day.

M. Hardy employs the following formula:

℞ Hydrarg. bichlor..... gr. xv.
Aquæ destillat..... ℥ iij. ʒ v.
Alcoholis..... q. s.
M.

Sig. A tablespoonful in a tumbler of tepid water. In applying, care should be taken not to rub the parts.

In that form of pruritus vulvæ which so often accompanies pregnancy, Dangan employs the following formula:

℞ Zinci oxid..... ʒ i.
Sodii borat..... ʒ ij.
Cerat. simpl..... ʒ iv.
Ol. amygdal. dulc..... q. s.
Morphiæ muriat..... gr. i.
M.

M. Bazin prescribes in pruritus the following liniment:

℞ Liq. calcis,
Glycerinæ, āā..... ʒ vijss.
Ol. amygdal. dulc.... ʒ i. ʒ vi.
Ol. rosmarini vel gaultheriæ..... gtt. v.
M.

He also occasionally makes use of the following formula:

℞ Glycerinæ..... 150 grammes.
Tinct. opii..... 4 grammes.
Ol. rosmarini vel gaultheriæ..... gtt. v.

—*L'Abeille Méd.*

Sulphurous Acid as a Dressing for Recent Wounds.

The following formula was used with great satisfaction in various parts of France during the late war:

℞ Acidi sulphurosi..... f ℥ ss.
Aquæ..... Oi.
M.

Apply in the form of lotion, or by means of an irrigator. This solution is particularly useful in wounds where there is much suppuration, or where cicatrization takes place slowly.

Sage's Catarrh Remedy.

According to Adrian Bowers, in the *American Journal of Pharmacy*, this popular nostrum may be reproduced very nearly by employing the following formula and manipulation:

Take of hydrastis canadensis, in powder... gr. v.
Indigo ..... gr. ss.
Powdered camphor... gr. ij.
Carbolic acid..... gr. ij.
Sodium chloride..... gr. l.

Rub the camphor with the salt, previously reduced to a moderately fine powder; rub the indigo and carbolic acid together; mix with the salt and camphor, and, lastly, add the hydrastis, and mix intimately in a mortar, without much pressure.

Catarrh Remedy.

Take a wide-mouthed glass bottle loosely filled with cotton, and pour on it the following mixture: Pure carbolic acid 80 grains, aqua ammonia (sp. gr. 0.96) 90 grains, distilled water 160 grains, rectified spirits of wine 80 grains. Inhale frequently through the nose, and now and then into the mouth.

Catarrh Snuff.

Dr. E. C. Mann, of New York, recommends the use of a snuff composed of equal parts of finely pulverized camphor and white powdered sugar as an adjuvant to the various injections and sprays employed in the treatment of nasal catarrh.—*New York Medical Journal.*

Cold Powders.

Dr. Beard, editor of the *Archives of Electrology and Neurology*, says he has for some time been using a "cold powder," the formula for which he first saw in a journal called *Our Home Physician*, and which has proved of considerable value. The composition of it is as follows: "Camphor, five parts. Dissolve in ether to the consistence of cream. Then add carbonate of ammonia, four parts; opium-powder, one part.

"Mix and keep in tightly corked bottle. The dose is of course regulated by the opium, and ranges between three and ten or fifteen grains. We have been accustomed to prescribe it for our friends by the finger-nailful, or as much as can be put on the finger-nail.

"This powder may be taken in a little water just before retiring, by preference, or at any hour of the day, whenever there is a *suspicion of having caught cold.* If need be, a moderate dose may be taken several days in succession."

The advantages of this powder are said by Dr. Beard to be:

1. The taste is agreeable, or at least is not disagreeable. Even the bitterness of the opium is mostly neutralized by the camphor and ammonia. No child objects to it.

2. It is singularly and inexplicably efficacious. He believes it to be more efficient than Dover's powder, and incomparably more agreeable. In some cases it produces gentle perspiration; in others, its effect is not observed.

Aniseed Cordial.

Take of Anise water.... 10 parts.
Simple syrup.... 4 parts.
Alcohol..... 1 part.
Sherry wine.... 1 part.
Mix.

—*Pharmacist.*

Artificial Chalybeate Water.

An artificial ferruginous mineral water may be made by the following formula:

℞ Ferri citrat..... gr. xvi.
Syr. limonis..... f℥ xxvi.
Artificial Seltzer water ad Oi.

This makes an agreeable mixture, and can be modified by the use of ordinary soda-water procurable from an apothecary. It is not necessary that the mixture should contain much gas, and if kept in a cool place the bottle containing it may be opened several times without depriving it of flavor.

Remedy for Rheumatism.

The following receipt is being extensively circulated privately by a gentleman who had rheumatism; he attributes his cure to the use of this prescription, and has been obliged to have the formula printed in order to supply the demand for it:

Iodide of potassium....	2	drachms.
Carbonate of potassium.	6	"
Wine of colchicum....	4	"
Syrup of orange-peel..	8	"
Tincture of orange.....	6	"

Directions: "Mix the above in one pint of water; take half a wineglass, three times a day, in two tablespoonfuls of lemon juice; pour one in the other and drink while effervescing."

Remedy for Sick-Headache.

Dr. R. H. McKay, of Tennessee, contributes to the *Med. and Surg. Reporter* the following formula, which he has found of great value in the treatment of sick-headache: Granulated muriate of ammonia, one teaspoonful; acetate of morphia, one grain; water, half a pound. Dose for an adult, two teaspoonfuls every ten minutes (precisely) until relief is obtained.

Improved Formula for Charta Sinapis.

A. W. Gerrard, in the *Pharmaceutical Journal and Transactions*, gives the following formula as one which, in his hands, has stood the test of experience:

Take of caoutchouc.....	1 part.
Benzol.....	49 parts.
Black mustard, in powder, q. s.	

Dissolve the caoutchouc in the benzol; then stir in the mustard till of a proper consistence for spreading on paper.

Toothache Drops.

1. ℞ Chloroform,		
Sydenham's laudanum, āā	ʒ	ij.
Tinct. benzoin,.....	ʒ	viij.
2. ℞ Creasote,		
Chloroform, āā.....	ʒ	ij.
Sydenham's laudanum ...	ʒ	iv.
Tinct. benzoin,.....	ʒ	i.
3. ℞ Oil of peppermint,		
Rhigolene,		
Chloroform, āā	ʒ	iij.
Camphor.....	ʒ	ij.
4. ℞ Chloral,		
Camphor, āā.....	ʒ	i.
Morphia.....	gr.	ij.
Oil of peppermint, ...	ʒ	ij.

—*Dental Cosmos.*

Dr. O. C. Smith praises the following very highly: Take of carbolic acid, saturated solution, chloral hydrate, saturated solution, paregoric, fluid extract of aconite, of each an ounce; of oil of peppermint half an ounce; saturate a pledget of cotton or a piece of sponge, and tightly pack in the cavity.—*London Med. Record.*

Topical Application in Painful Dentition.

℞ Syrup of tamarinds	ʒ	ijss.
Infusion of saffron	℈	ij.
Honey.....	ʒ	iiss.
Tinct. (essence) of vanilla.	gtt.	iv.

M.

Rub gently over the gums with the finger or rag. An application of a similar character is the following:

℞ Saffron (powdered).	4 to 6 grs.
Honey...	2 to 3 drachms.

Glycerine may be substituted for the honey.—*Philadelphia Medical Times.*

Cod-Liver Oil.

M. Guichard states that for many persons cod-liver oil can be sufficiently disguised by breaking up sardines in it. The person should first be taught to like sardines, then the oil of sardines, and then it is but a short step to cod-liver oil with sardines crumbled in it.

Anti-Cancerous Solution.

(GIORDANO).

℞ Acid. citric.....	ʒ	i.
Aquæ destillat.....	ʒ	i. ʒ ij.

M.

Pieces of charpie soaked in this solution and laid upon cancerous ulcerations

act as a detergent and delay the progress of the disease.

Mode of Administering Creasote.

As creasote is now frequently employed in the treatment of typhoid fever, and is exceedingly distasteful to some patients, it may be worth while to mention here a formula which in a great measure covers its flavor, and is easily prepared: Creasote, 3 drops; essence of lemon, 2 drops; orange-flower water, 1 ounce; spring-water, 3 ounces. A spoonful to be taken at frequent intervals throughout the day.—*Canada Medical Journal.—Virginia Clinical Record.*

Jalap Biscuit.

Mr. Tambureau, of Algeria, proposes as a convenient purgative a biscuit containing jalap, resin, sugar, eggs, and flour, and flavored by vanilla. The biscuits thus produced are said to have a presentable appearance and agreeable taste.

Cathartic Electuary for Use in the Later Period of Diseases of the Heart.

℞ Pulv. sennæ,
Pulv. jalapæ,
Pulv. scammonii,
Pulv. gambogiæ,
Mel. despumat.
M.

Sig. Two to three tablespoonfuls every morning.

This formula is suggested by M. Peter in the later period of heart-disease, where there are multiplied visceral congestions, and where diuretics and drastics are indicated.

In Habitual Constipation.

℞ Resin. podophyll... gr. ij.
Ext. hyoscyami,
Sapo. castil āā..... gr. viij.
M.
Div. in pil. No. xxiv.
Sig. One at night.

This formula is recommended by Dr. Marchant as a convenient one to avoid the griping sometimes caused by podophyllin, and to exercise a beneficial effect on the condition of the bowels leading to constipation.

Pomatum for the Prevention and Cure of Baldness.

℞ Suet, 65 parts; castor-oil, 25 parts; gallic acid, 2 parts; essence of vanilla, q. s.—*London Practitioner.*

Hair Tonic.

℞ Adipis.....	℥ ij.
Ceræ albæ.....	℥ i.
Bal. Peruvian.....	ʒ ij.
Tinct. canth.....	ʒ ss.
Olei lavendulæ.....	gtt. xvi.

Melt the lard and wax together by gentle heat; add the other ingredients and stir until cold. This preparation has no superior in restoring the growth of the hair.—*Drug. Circ.*

Hoffman's Anodyne Emulsion.

Hans M. Wilder, in the *American Journal of Pharmacy*, suggests the following:

Take of mucilage acacia, 2 fld. drachms; water, 6 fld. drachms; Hoffman's anodyne, 2 fld. ozs. Put in a bottle and shake well, and add sugar, 2 ozs.

The formula was made in accordance with the old rule: "Make the mucilage of about the same consistence of the liquid to be emulsionized."

Mayer's Ointment or "Mutter Salbe."

℞ Ol. olivæ.....	℥ iv.
Terebinthinæ.....	℥ ij.
Ceræ flavæ.....	℥ i.
Adipis.....	℥ i.
Plumbi rubri.....	℥ iv.
Mellis.....	℥ iij.
Camphoræ.....	℥ ij.

Melt the olive oil, turpentine, beeswax, and lard together, and strain. Then heat nearly to the boiling-point, and gradually add the red lead, stirring the mixture constantly until it becomes a dark-brown color. Then remove from the fire, and when it becomes somewhat cool add the honey, and lastly the camphor, previously powdered.

Anti-Gastralgic Mixture.

℞ Tinct. castor..... ʒ ij.
Tinct. opii..... ♏xxx.
Tinct. menth. pip..... ♏xv.
M.

Sig. Eight to ten drops from hour to hour, in a tablespoonful of sweetened water. Useful in the pains of cardialgia, also in flatulence, and in pain in the intestines.—*Dr. De Savignac, Gaz. Méd. de Paris*, September 5, 1874.

Suppositories of Chloral.

℞ Chloral..... ʒ iss.
Ol. theobromæ..... ʒ ijss.
Ceræ alb..... ℈vss.
M.
Ft. suppositor. No. vi.

℞ Ol. theobromæ..... ʒ v.
Ceræ alb..... ʒ ijss.
Glycerinæ..... ℈iv.
Chloral..... ʒ ijss.
M.
Div. in suppositor. No. vi.

The chloral should be dissolved in the glycerine at a gentle heat, and the cacao butter and wax added subsequently.

These suppositories of chloral are recommended by Dr. Constant Paul in cancer of the uterus. His formula is: cacao butter, 11 grammes; white wax, 7 grammes; and chloral hydrate, 6 grammes; to be divided into six suppositories.

Sir James Paget says the best wash for hardening the skin, to prevent bedsores, is one part of sweet spirits of nitre to three parts of water.

Removing Nitric Acid Stains.

The yellow spots produced by nitric acid may be removed from brown or black woollen goods, while fresh, according to Th. Wegler, by repeatedly dipping them into a concentrated solution of permanganate of potash, and then washing with water. The yellow spots on the hands may be removed in the same way, the brown stain produced by the permanganate being removed by an aqueous solution of sulphurous acid. Old stains cannot be removed by this or any other process, nor will it answer for cloth of any other color but black or brown.

Cement for Broken Mortars and Glasses.

Two parts citrate of lime, twenty-five water, and twenty parts of gum arabic, rubbed together in a mortar, form a transparent cement of remarkable strength, and can be used for wood, stone, glass, porcelain, etc. The surfaces to be united are painted with the cement, and bound together until drying is complete.—*Dingl. Polyt. Journal.*

Oil of Eggs for Sore Nipples, Chaps, etc.

Heat yoke of egg until it becomes thoroughly dry; press it, and digest in boiling alcohol; filter while hot, and distil off the spirit.

Lavender Water.

The following formula by Dr. Pereira gives a very superior preparation:

Oil of lavender.....	3 drachms.
" bergamot.....	3 "
Otto of roses.....	6 drops.
Oil of cloves.....	6 "
Musk.....	2 grains.
Oil of rosemary.....	1 drachm.
Honey.....	1 ounce.
Benzoic acid.....	40 grains.
Rectified spirit.....	20 ounces.
Water.....	3 "

Gum Arabic Mucilage.

This preparation, when made according to the pharmacopœia, does not keep very well in warm weather, and Messrs. Archer & Co., in the "American Journal of Pharmacy," recommend that it be made with tolu water. The mucilage thus prepared has a faint odor of tolu, and is, in appearance, similar to the officinal. The tolu water is prepared by rubbing two fluid drachms of a saturated tincture of tolu with four drachms of magnesium carbonate, and two pints of water and filtering. The tolu is supposed to prevent the mucilage from changing, upon the same principle that benzoin obviates rancidity in fats.

Lime Juice and Glycerine for the Toilet.

Lime juice	10 ounces.
Rose water	5 "
Rectified spirit, added gradually	2 "

Shake well together; let stand for twenty-four hours and strain through muslin. Add,

Oil of lemon	30 drops.
" lavender	30 "
Glycerine	2½ ounces.

Shake well. The essential oils should be dissolved in a little alcohol, previous to admixture.

Essence of Millefleurs.

Lavender water	1 fl. oz.
Spirit of jasmine	1 "
Oil of bergamot	90 drops.
" cassia	30 "
" sassafras	12 "
Otto of roses	1 drop.
Orange-flower water	8 fl. oz.
Rectified spirit	1 pint.

Another Pill-Coating

Is recommended in the *Canadian Jour. of Pharm.*, by Mr. John Whitfield, who uses a varnish made as follows:

Common amber resin	1 to 2 drachms.
Spirits of turpentine	1 drachm.
Oil of geranium	20 minims.
Absolute alcohol	to make 1 ounce.

The oil of geranium may be omitted, or substituted by another.

Incense.

The following formula is followed by some of the Catholic churches:

Benzoin	4 ounces.
Storax	4 "
Labdanum	6 "
Myrrh	6 "
Cascarilla	3 "
Oil of cinnamon	8 minims.
Oil of lavender	20 "
Oil of bergamot	20 "
Oil of cloves	20 "

Mix, and pass through a coarse sieve. —*Chemist and Druggist.*

Gout Paper (*Papier Fayard*).

Tinct. euphorbium	1 fl. oz.
Powdered cantharides	2 "
Alcohol	8 "
Ether	3 "
Strain, and add Venice turpentine	1 "

Dip thin sheets of white paper into this, and dry in a cool place.

Moore's Essence of Life.

Spirits of camphor	2 ounces.
Senna	1 ounce.
Squills	1 "
Liquorice ball	4 ounces.
Coriander	1 ounce.
Tincture of opium	2 ounces.
Blood root	2 drachms.
Digitalis	2 "
Rum	1 gallon.

These were, all of them, put together, digested for fourteen days, and then pressed and strained.—T. Larkin Turner, in the *Druggists' Circular.*

Remedy for Persistent Neuralgia.

Mr. Desnos, of the Hôpital de la Pitié, recommends the following com-

bination as being frequently successful in rebellious neuralgia. Even in cases where it has failed, if tried again after a short time, it may succeed. He first applies over the painful spot mustard poultices, and then rubs into the reddened surface a liniment composed of

℞ Oil of hyoscyanum	℥ iss.
Laudanum	ʒ ss.
Chloroform	ʒ iss.

Mix.

—*Jour. de Méd.* and *The Practitioner.*

Formula for Extemporizing Hydrocyanic Acid, B. P.

In a paper read before the British Pharmaceutical Conference, Mr. B. S. Proctor gave the following formula for the above purpose:

Water	℥ i.
Cyanide of zinc and potasium	gr. xxij.
Tartaric acid	gr. xl.

Dissolve the cyanide in the water, add the acid, allow the precipitate to subside; decant the clear liquor and preserve it in a corked vial. Renew the stock at the end of three months.

Elixir of Liquorice.

THE following formula for elixir of liquorice has been used for concealing the taste of quinia, etc. One fluid ounce will disguise the taste of from eight to ten grains of sulphate of quinine. It is said to be equally as good as a vehicle for covering the nauseous taste of medicines given in powder.

℞ Liquorice root, ground	32 ounces.
Caraway seed	6 drachms.
Star anise	16 "
Coriander	10 "
Cinnamon bark	16 "
Water	9 quarts.
Alcohol (95 per cent.)	1 quart.
Sugar (white)	80 troy ozs.

Macerate the spices with the alcohol, mixed with one pint of water, for seven days, frequently agitating; transfer to a percolator, and when the liquid ceases to drop, pour on the same menstruum until three pints have been obtained. Digest the liquorice with the water for two hours, then bring to the boiling-point, and boil for fifteen minutes; express strongly, and mix the decoction with the tincture of the aromatics; let it stand for twenty-four hours, and filter. Add to the filtrate the sugar, and agitate until dissolved; again filter, and the elixir is ready for use.—*Druggists' Circular.*

Oleic Acid Preparations.

At the last meeting of the *British Pharmaceutical Association*, Professor Tichborne, of Dublin, presented a paper "On the Application of Oleic Acid to Pharmacy," from which the following formulæ are taken. He did not doubt that they might be improved upon, but he was confident that the days of the old forms were numbered. No one, he said, who uses oleic acid in making the saponaceous liniments, will wish to return to the soaps.

Linimentum Ammoniæ.

Oleic acid	℥ i.
Water	℥ ij.
Strong solution of ammonia	℥ ij.

Mix the water and oleic acid, and add the solution of ammonia gradually, but with agitation. This will yield a liniment of definite and unchangeable composition.

Lin. Potass. Iod. c. Saponæ.

Oleic acid	2 ozs.
Carbonate of potassium	2 "
Iodide of potassium	7½ "
Glycerine	5 "
Oil of lemon	5 drs.
Water	2½ pts.
Solution of potash	q. s.

Dissolve the carbonate with heat in 60 ozs. water, add the oleic acid, and when the effervescence has ceased add the remaining ingredients mixed together, and then a sufficiency of solution of potash to make it of the required consistence.

Linimentum Saponis.

Oleic acid.....	8 ozs.
Carbonate of sodium	4 "
Camphor.....	5 "
Oil of rosemary....	12 drachms.
Rectified spirit.....	3 pts. 12 ozs.
Water.....	8 ozs.

Dissolve the carbonate in the water by the aid of heat, add gradually the oleic acid, and when the effervescence has subsided, add the rosemary and the camphor dissolved in the spirit, and filter if necessary.

Linimentum Terebinthinæ.

Oleic acid.....	1 oz.
Oil of turpentine.....	16 ozs.
Camphor.....	1 oz.
Solution of potash.....	q. s.

Dissolve the camphor and oleic acid in the turpentine, and add, gradually, the solution of potash until the whole is emulsified.

Solutions of Croton Chloral.

Jules Worms asserts that croton chloral is not so generally tolerated as chloral, and recommends the following formula for its administration:

℞ Croton chloral	1 gramme.
Glycerine.....	60 grammes.
Water.....	60 "
Oil of peppermint.	3 drops.
Simple syrup.....	25 grammes.

Louis Diehl remarks the sparing solubility of croton chloral as compared with chloral. It may be dispensed in aqueous solution, of a strength corresponding to two grains in the fluid drachm. Mr. Diehl gives the following formula:

℞ Croton chloral hydrate.	gr. viij.
Warm water.....	f ℥ i.
Simple elixir.....	f ℥ vij.

Ft. solutio.

Iodine Paint.

The following formula for iodine paint is that of Mr. Bouvier. It is strongly recommended by Mr. Laborde, and is as follows:—

Tincture of iodine.....	30 parts.
Pure iodine.....	3½ parts.
Iodide of potassium....	1½ parts.

Mix.

As a mulsion the following is of service:

Tincture of iodine.....	30 parts.
Pure iodine.....	5 parts.
Iodide of potassium.....	2½ parts.

This may be painted over the part twice at one sitting, but should not be repeated on the same day, lest vesication should be induced; nor, indeed, is it expedient to supply it till the epidermis has separated.

Sulphate of Quinine Pills.

Mr. A. Wilson, of Hamilton, Canada, in a communication to the *Canadian Pharmaceutical Journal*, gives the following methods of making pills of sulphate of quinine. Each of the following forms show the quantity of ingredients necessary to make ten grains of quinine into pill mass.

1.—*British Pharmacopœia.*

℞ Quiniæ sulph.....	gr. x.
Conf. rosæ caninæ..	gr. iij.

M.

This form makes a rather large pill of a dark color, and not quite so cohesive as Nos. 3, 4, 6, 7.

2.—*U. S. Pharmacopœia.*

℞ Quiniæ sulph.....	gr. x
Pulv. acaciæ.....	gr. iijss.
Mellis.....	gr. v.

M.

The U. S. P. form makes too large a pill and becomes hard and insoluble when long kept.

3.—

℞ Quiniæ sulph.....	gr. x.
Glycerini amyli....	gr. iij.

M.

4.—

℞ Quiniæ sulph.....	gr. x.
Glycerini amyli.....	gr. ij.
Acid. sulph. aromat.	m. i.

M.

Makes a very nice small pill, but not quite equal to Nos. 3, 6, and 7, which

are small pills, very plastic, white in color, easily made, and keep well, not becoming hard.

5.—℞ Ext. taraxaci..... gr. v.
Quiniæ sulph..... gr. x.
M.

Makes a rather large pill of a dark color, very cohesive and easily manipulated.

6.—℞ Quiniæ sulph..... gr. x.
Acid. tart..... gr. ij.
Glycerini..... gtt. 1 1–4
M.

7.—℞ Quiniæ sulph..... gr. x.
Glycerini amyli... gr. 1 2–3
Acid sulph. dil... gtt. i.
M.

8.—*Parrish's Formula.*

℞ Quiniæ sulph..... gr. x.
Acid. sulph. aromat. m. vj.
M.

Too tedious to make, and not so small as claimed.

To Keep Cider Sweet.

Professor Horsford, of Cambridge, recommends the following plan for preserving cider sweet:

"When the cider in the barrel is undergoing a lively fermentation, add as much white sugar as will be equal to half or three-quarters of a pound to each gallon of cider, and let the fermentation proceed until the liquid attains the right taste to suit; then add an eighth to a quarter of an ounce of sulphite (not sulphate) of lime to each gallon of cider in the cask; first mixing the powder in about a quart of cider, and then pouring it back into the cask, and giving it a thorough shaking or rolling. After standing bunged up for a few days, for the matter added to become incorporated with the cider, it may be bottled or used from the cask."

Emulsio Carnis.

At a meeting of the Société d'Emulation pour la Science Pharmaceutique, M. Yvon proposed the following as an excellent form for the administration of raw meat:

℞ Raw meat..... ℥ viij.
Sweet almonds..... ℥ ijss.
Bitter almonds..... ʒ iss.
White sugar..... ℥ ijss.

The almonds are blanched, and the whole beaten together in a mortar until a rose-colored homogeneous paste is obtained. This is of an agreeable flavor, and may be mixed with water to form an emulsion, or it may be beaten up with the yolks of eggs, and mixed with milk instead of water.—*Detroit Review of Medicine and Pharmacy*, October, 1874.

Mr. James Kemble, in the *American Journal of Pharmacy* for October, proposes the following very similar formula:

℞ Fresh raw beef (lean)..... ℥ vj.
Sweet almonds, deprived of their shells and roasted... ℥ i.
Bitter almonds..... ʒ vj.
Sugar..... ʒ vj.
Glycerine..... ℥ ij.
Water, sufficient for emulsion..... ↄi.

Rub or beat the beef, almonds, and sugar to a fine pulp in a Wedgwood or wooden mortar, then add water gradually until a smooth emulsion is formed, and strain through a sieve or coarse cloth; return the residuary mass to the mortar, manipulate with the balance of the water until f ℥ xiv. are obtained, strain all through a finer strainer, add the glycerine, and bottle; the bottle is to be kept well corked. Dose, f ℥ i. containing ʒ iij. of the beef.

The physician, in prescribing, can order the addition of brandy, pepsin, or any other medicine he wishes to administer at the same time.

BIBLIOGRAPHY.

THERAPEUTICS AND MATERIA MEDICA. A Systematic Treatise on the Action and Uses of Medicinal Agents, including their Description and History. By ALFRED STILLÉ, M.D., Professor of the Theory and Practice of Medicine, and of Clinical Medicine, in the University of Pennsylvania, etc., etc. Fourth Edition. Philadelphia: Henry C. Lea. 1874.

THE author says that after being two years out of print, this work has again been issued, with an increase of about two hundred and fifty pages of new matter. Some portions of it have been nearly rewritten, and the nomenclature throughout has been made to conform to the last edition of the Pharmacopœia. The author further says that continued study, observation, and reflection have tended to confirm his conviction that it is a mischievous error to seek to deduce the therapeutical uses of medicines from their physiological effects; and confirm his faith that clinical experience is the only true and safe test of the virtues of medicines.

We are not prepared to enter into a discussion of the truth of this position, but we are by no means ready to relinquish our hope that the increasing tendency of the profession, to base a knowledge of the action of remedies upon their known physiological effects, is the way by which we are to reach a comprehensive understanding of at least a few of the instruments which we need to use in combating disease.

The facts in therapeutics that have been established by the empirical method, and have withstood the test of time, are not sufficiently numerous to give us much encouragement in following unhesitatingly the path of clinical experience, which, to quote Prof. H. C. Wood, "is not a new path, but a highway already worn with the eager but weary feet of the profession for two thousand years." The information that we have thus far derived from observation of the action of remedies in disease, depends so much for its value upon the character of the observer, and the nature of the influences which have surrounded the patient and complicated the course of his affection, that the general recognition by this method of invariable properties in any considerable number of drugs seems almost hopeless; the more so since so few observers at the present day know anything certainly of the drugs they are using. As yet, however, this is the only method we possess which approaches in any degree to completeness, and the physician who would conscientiously practise his profession, will find the comprehensive and able work of Professor Stillé none too large for his needs.

We might add the reasons why the native character of this work especially fits it for the practitioner on this continent; but the success which has attended the publication of former editions is of itself sufficient evidence that the fact is well appreciated, and that no additional testimony is required to convince the profession that it is a safe and valuable authority in questions relating to therapeutics.

A HAND-BOOK OF THERAPEUTICS. By SIDNEY RINGER, M.D., Professor of Therapeutics in University College, etc. Fourth Edition. New York: William Wood & Co. 1874.

DIFFERENT in many respects from the foregoing is the hand-book of Dr. Sidney Ringer. As its title indicates, it is devoted solely to Therapeutics. No attention

whatever is given to Materia Medica, not even the doses of remedies being mentioned in many cases; but the amount of information conveyed in small space about the therapeutical and physiological effects of medicine, is remarkably full and explicit, and the revision has included about all that has been definitely accomplished since its preceding edition appeared. The style in which the book is written is fresh and incisive, rendering it one of the most agreeable works on the subject for reading "in course," with which we are acquainted. Its convenient size and clear type add to its merits in this respect, and make it a desirable work for students as well as practitioners. In the way of additions, chapters have been introduced on Phosphorus, Croton Chloral, and Hamamelis, and numbers of the subjects treated of in the third edition have had new matter incorporated with them. The chapter devoted to a Dietary for Invalids contains several appetizing formulæ which are new to us.

PHARMACOGRAPHIA. A History of the Principal Drugs of Vegetable Origin met with in Great Britain and British India. By FRIEDRICH A. FLÜCKINGER, Phil. Dr., Professor in the University of Strassburg, and DANIEL HANBURY, F.R.S., Fellow of the Linnæan and Clinical Societies of London. London: Macmillan & Co. 1874. Pp. 704.

THIS work, instead of being specially intended for the physician, like the ones formerly mentioned, is chiefly of interest to the pharmacist. Its title—"*Writing about Drugs*"—is a very good indication of its general scope. The effort of its authors has been that the book should contain observations that no one else had written down; that it should be, in fact, a record of personal research on the principal drugs derived from the vegetable kingdom, together with such results of an important character as have been obtained by the numerous workers on Materia Medica in Europe and America. Nothing relating to Pharmacy or Therapeutics has been included; nor have the authors treated so fully of questions relating to Botany and Chemistry as to render the work independent of publications on these subjects. In the somewhat limited space which remained at their disposal they have given, first, the names of each drug in Latin, English, French, and German, as far as possible; its botanical origin; the history of its introduction into medicine; in some instances the formation, secretion or method of its collection; its description, together with the most salient points in its microscopic structure; its chemical composition, production, and commerce, and its adulteration and substitutes. The authors claim that it has been their aim to investigate anew the field of vegetable Materia Medica, in order, as far as possible, to clear up doubtful points, and to remove some at least of the uncertainties by which the subject is surrounded.

The result has been a work which is in many parts of interest to the physician if for no other reason than the nature of the information about the history and culture of many of the drugs in use.

Especially is this true of the drugs which have been incorporated with the Pharmacopœia of India, many of which will no doubt be entirely novel to readers on this side of the ocean. How far this work may be the means of enlarging our Materia Medica, by the attention it will direct to these Indian drugs, cannot, of course, be predicted, but the notice given to them seems to us by no means the least valuable feature of the book.

The elegant, and, at the same time, serviceable style in which the book has been issued, is worthy of the reputation so long borne by its publishers.

ESSENTIALS OF THE PRINCIPLES AND PRACTICE OF MEDICINE. A Hand-book for Students and Practitioners. By HENRY HARTSHORNE, A.M., M.D., Professor of Hygiene in the University of Pennsylvania. Fourth Edition, thoroughly revised; with one hundred illustrations. Philadelphia: Henry C. Lea. 1874. Pp. 548.

ALTHOUGH by no means a new book, judging by the inspection we have made of it, the fourth edition contains considerable new matter, and is admirably fitted for its purpose. In the departments of Semeiology and General Therapeutics particularly does it differ from most of the hand-books intended for students; indeed, the author has fairly succeeded in making a book which differs from "extended text-books" rather in its mode of arrangement and condensation than in the amount or value of the information conveyed.

Two things appear to us especially worthy of note: the introductory chapter on "Systems of Medicine," which will be read with interest and profit by most students, and the last portion of the work, which is devoted to Disinfectants—a class of substances which have not been much noticed in text-books even, excepting as individual drugs—but which at the present day play no unimportant part in hygiene and therapeutics.

CLINICAL LECTURES ON DISEASES OF THE URINARY ORGANS. Delivered at University College Hospital. By SIR HENRY THOMPSON. Second American, from the Third and Revised English Edition. Philadelphia: Henry C. Lea. 1874.

THE author is well known as one of the best and most esteemed authorities on diseases of the urinary organs. Those who read this work cannot fail to admire him also as a teacher and a writer; for in one hundred and ninety-five well leaded pages he gives us a perfectly clear and readable treatise upon the diseases peculiar to this portion of the system, sufficiently comprehensive in its extent to serve the purposes of most physicians, and show them the way to gain a practical knowledge of the subject. We think that even John Ruskin, who affects to despise the modern lecture on the score of its effort at condensation, might read this series with positive admiration. Two lectures not in the former edition, have been added to this one. As might be expected, stricture and stone consume relatively more space than other subjects, but prostatic, vesical, and renal diseases are by no means overlooked.

THE CHEMISTS' AND DRUGGISTS' DIARY FOR 1875.

THE London *Chemists' and Druggists' Circular* presents to each of its subscribers a handsome diary, with interleaved blotting-paper and a quantity of information calculated to be of importance to a druggist and apothecary in his every-day business. Only one thing appears in it to which we take exception, viz., a list of "the names and addresses of *a few* of the leading physicians and surgeons of London." [The italics are our own.—ED.]

ARCHIVES OF ELECTROLOGY AND NEUROLOGY. A Journal of Electro-Therapeutics and Nervous Diseases. Edited by GEORGE M. BEARD, A.M., M.D. New York: T. L. Clacher, No. 107 East Twenty-eighth street.

ARCHIVES OF DERMATOLOGY. A Quarterly Journal of Skin and Venereal Diseases. Edited by L. DUNCAN BULKLEY, A.M., M.D. New York: G. P. Putnam's Sons, 308 Fourth avenue.

THESE two journals, devoted to special topics, have recently made their appearance at about the same time, and under alike favorable auspices. New

York is fortunate in its possession of a considerable number of earnest workers in both of these departments of medical science, and there is no probability that, so far as home talent is concerned, either of the journals will lack abundant material of good quality. Their first issues—and that of the latter in particular—are full of matters interesting to the general as well as the special practitioner. Both editors are well known as able writers on their respective branches.

CLINICAL LECTURES ON VARIOUS IMPORTANT DISEASES; being a Collection of the Clinical Lectures delivered in the Medical Wards of the Mercy Hospital, Chicago, by Nathan S. Davis, A.M., M.D., Professor of Principles and Practice of Medicine, and Clinical Medicine, in Chicago Medical College. Edited by Frank H. Davis, M.D. Second Edition. Philadelphia: Henry C. Lea. 1874.

THIS is, in fact, a reprint of Clinical Reports which appeared from time to time in *The Chicago Medical Examiner*, and are republished in this form to meet the demand for them, which could not be supplied otherwise. While scarcely entitled to be considered an exponent of advanced views in medicine, or improved methods in diagnosis, Dr. Davis, nevertheless, demonstrates in his writings his ability as a close observer and sound reasoner, and these qualities alone are sufficient to make his teachings valuable to men of experience equal even to his own. With no pretensions to completeness as a course of clinical lectures, they are well adapted to give students an idea of his opinions and methods of treating various affections. We hope to see more of this class of medical writings.

The style of the book and the quality of the editorial work are excellent.

CATALOGUE OF DRUGS AND CHEMICALS CONSTANTLY KEPT ON HAND. ALBERT DUNG & SON, 61 Bowery, New York.

ALTHOUGH but a trade circular, this pamphlet contains such a complete and well-arranged list of the chemical and pharmaceutical preparations which are not usually included among the things to be found in the majority of our wholesale establishments, that we take pleasure in mentioning its existence, as it may be the means of placing the rare alkaloids and acids within the reach of the experimentalist.

REPORT OF THE HEALTH OFFICER OF THE CITY AND COUNTY OF SAN FRANCISCO, for the fiscal year ending June 30th, 1874. HENRY GIBBONS, JR., M.D., Health Officer.

TRANSACTIONS OF THE EIGHTH ANNUAL MEETING OF THE MEDICAL ASSOCIATION OF THE STATE OF MISSOURI, held at Sedalia, April 21, 1874.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA. October, 1874.

HAND-BOOK OF PRACTICE EMPLOYING CONCENTRATED MEDICINES. By B. Keith, M.D. Jersey City. 1874.